AMERICAN AGRICULTURIST.

Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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A. B. ALLEN, Editor. HARPER & BROTHERS, Publishers.

THE NEW VIGNETTE.

As few of our subscribers seem to have been satisfied with the new vignette that headed the February number, we have thrown it aside and substituted the old one, which we shall continue to use till we can be furnished with something in the place of it that will be generally popular. It is no easy task to design an appropriate vignette.

TO POST-MASTERS.

WE beg to express our acknowledgments to Post-Masters for the interest they have taken in disseminating this periodical. They will please to consider themselves as our duly appointed agents in their respective localities, and in obtaining subscriptions deduct the commission allowed by the terms (for which see the last page of each number), and forward the same with the address, distinctly written, of each subscriber. Please to recollect that all letters marked "P. O. Business," with the name of the Post-Master and office where mailed, go *free*. If any papers come erroneously directed, or lie dead, or if anything else at the Post-Office demands the attention of the publishers, they can be written to without taxing them with postage. As to stoppages, by a late decision in court it has been ruled, that merely returning a copy of "John Smith's" paper with "*stop this*" written on it, without post-mark, or other indication of locality, was not sufficient or legal notice; but a *written notice, with name, place, date, and reason*, must be sent to the publisher, and "franked," that it may be taken out by him.

In all cases Post-Masters are requested to remit the amount of subscriptions to C. M. Saxton, 205 Broadway, at the risk of the publishers. They particularly request that no Post-Office orders be sent, as it is more trouble to go through the form of collecting them than they are worth.

NEW YORK STATE AGRICULTURAL SOCIETY.

Agricultural Rooms, Feb. 11th, 1847.

PRESENT—George Vail, President; J. M. Sherwood, ex-President; Wm. Buel, Samuel Cheever, C. N. Bement, Vice-Presidents; A. McIntyre, Treasurer; B. P. Johnson, Secretary; T. J. Marvin, W. A. Beach, J. T. Blanchard, A. Stevens, Executive Committee; E. P. Prentice, Dr. A. Thompson, Wm. H. Sotham.

Mr. Prentice, from the committee on the premium list, reported that the committee had been unable to complete the list in time for this meeting. And the same was re-committed to the committee, to report to the Board at their next meeting—and the Secretary was added as a member of the committee.

A communication from E. M. Gale, M.D., on the cause of abortion in cows, was read and referred to the committee on preparations and transactions.

Communications from Hon. Benj, Enos, Madison County, and the President, on the adoption of rules for measuring corn crops, &c., were read and referred to the committee on premium list.

Statement of a crop of oats raised by Hamilton Morrison, was presented and read, and no premium awarded, as the rules required by the Society as to the measurement of land and of the crop, had not been observed by the applicant, nor any sample of his grain presented.

On motion of Mr. Stevens, the plan of show grounds at Auburn, was ordered to be engraved, under direction of Messrs. McIntyre, Tucker, and Stevens.

On motion of Mr. Johnson, the President, M[illegible] Sherwood, and Mr. Stevens were appointed a co[illegible]r. mittee to prepare regulations for grain crops. [illegible]m-

The Secretary was directed to return the t[illegible] of the Society to P. L. Simmons, Esq., of L[illegible]hanks [illegible]ondon,

for his valuable communication to the Society on grasses, and forward to him the Transactions of the Society for 1844 and 1845.

On motion of Mr. Johnson, vols. 4 and 5 of the Society's Transactions were ordered to be furnished to the N. Y. Historical Society.

On motion of Mr. Stevens,

Resolved, That a set of the Transactions of the Society be furnished to the New York Agricultural Association.

Messrs. Johnson, Stevens, and Bement were appointed a committee to superintend the preparation and printing of the Transactions of the Society.

On motion of Mr. Stevens,

Resolved, That the Show and Fair of the Society be held at Saratoga Springs, on the 14th, 15th, and 16th of September, 1847, and that the first day be devoted exclusively to the examinations by the committees, and the second and third days to the exhibition—on condition that the persons who shall have presented a written guaranty to the board, furnish a bond executed by themselves or others in exchange for the same at the next meeting of the board—conditioned, that this Society shall not be charged with any of the expenses of the Fair at that place.

Messrs. Howard, Bement, and Johnson were appointed a committee to prepare subjects for the weekly agricultural meetings.

Resolved, That the meeting adjourn to Thursday, the 18th instant, at 11 o'clock, A. M.

The premium list of the last year is left with the Secretary at the Society's rooms in the old State Hall, where premiums will be paid in the absence of the Treasurer.

Officers of county societies who have not forwarded their reports, are requested to do so immediately to the Secretary.

Publishers of papers, and others who have business with the Society, are desired to direct their papers and letters to the Secretary, at the Agricultural Rooms, Albany.

B. P. Johnson,
Secretary.

PROFITABLE CULTURE OF CORN.

The following account of a crop of corn, raised at Oyster Bay, Long Island, was handed us for publication by a friend, who personally conducted the experiment and set down all the items. We have so much confidence in its accuracy, that we are ready to vouch for it throughout. The statement was given to us early in January, at which time corn was worth the price at which it is credited, viz. 75 cents per bushel. It is now worth $1.00 per bushel, which would make the profit of the crop $133.25 more than it is put down at. But at the lowest average price at which it has ruled for the few years past, say 50 cents per bushel, it would still leave a good profit, and goes to show that it is one of the most reliable products of the farm.

The British Isles have now acquired a taste for Indian corn and meal, and henceforth, under any circumstances, whether of famine or plenty, they will continue large consumers, so that the farmers of America need no longer be anxious in regard to their surplus. Large quantities of corn and cob meal also are baked into cakes or shipped raw for feeding. Upon careful experiments in England, few substances are found more economical for fattening purposes.

Account of Corn Crop for 1846, *S.E. Lot, Area* 10 1-5 *Acres.*

1846.		Dr.	
April	14,	oxen 1 day's plowing, -	$1.50
	15,	do - - -	1.50
	16,	do - - -	1.50
	17,	do - - -	1.50
	18,	do - - -	1.50
	18,	1 man, 1 day mixing guano, -	75
	20,	oxen 1-2 day's plowing, - -	75
	21,	do - - - -	75
	"	1 man 1-2 day mixing guano, -	38
	22,	oxen 1-2 day's plowing, - -	75
	23,	do 1 day, - - -	1.50
	24,	do 1-2 day, - - -	75
	"	1 man 1-2 day mixing guano, -	38
	25,	oxen 3-4 day's plowing, - -	1.12
	27,	do 1 day's do - -	1.50
	28,	do 1-2 day's plowing and harrowing, - - -	75
	29,	do 1-2 day's harrowing, -	75
	30,	do 1 day's harrowing, - -	1.50
May	1,	1 team, 1 day's laying out, -	1.50
	4,	4 1-2 days' work planting, - -	3.37
	5,	4 1-2 days' do - - -	3.37
	6,	1 1-2 days' do - - -	1.12
	7,	1 1-2 days' do - - -	1.12
	8,	2 days' do - - -	1.50
	"	65 lbs. guano plowed in, - -	1.95
	"	1400 lb. do in the hills, -	42.00
	25,	4 days' work planting over, -	3.00
	26,	2 days' work do - -	1.50
June	9,	2 days' work with cultivator, -	2.00
	10,	do - - - -	2.00
	11,	do - - - -	2.00
	"	1 day's work hoeing - -	75
	12	1 day's work, do - -	75
	13, 15 and 16,	9 1-2 days' work hoeing,	7.11
	17,	2 1-2 days' work hoeing, - -	1.87
	18,	2 days' do - - -	1.50
	20 and 30,	4 1-2 days' work putting on guano, - - -	3.37
July	13,	1 day with cultivator, - -	1.00
	14,	1 day do - - -	1.00
	21 and 29,	2 1-2 days' putting on guano,	2.25
	"	1031 lb. of guano, - -	18.03
Sept.	22d to 28,	10 1-2 days' work topping and stacking, - -	8.25
Oct.	2d,	1 day's work in stacks, - -	75
	22 to Nov. 19,	32 days' work husking, cutting up stalks, &c., and putting away the corn, -	24.00
	"	Carting 15 loads of stalks, -	5.50
	"	Other labor—*paid*, - -	2.75
			$165.44

	Cr.	
By	5 loads of top stalks, -	$20.00
"	10 1-2 do butt do - -	28.75
"	533 bushels shelled corn, at 75c.	399.75
		$448.50
Profit on 10 1-5th acres of corn, -		$283.06

Remedy for the Borer in Peach-trees.—We call the attention of our readers to the remarks of Drs. Stevens and Gardner, on page 87, respecting the application of coal-tar to peach-trees.

CHITTENDEN COUNTY (Vt.) AGRICULTURAL SOCIETY.

At the Annual Meeting of this Society, lately held at Burlington, the committee on field crops reported that they had examined all the specimens, and the mode of cultivation exhibited, and they regretted to state that so few were shown; but the quality, in most cases, made full amends for want of quantity.

The first premium on winter wheat was awarded to Levi Comstock, of Shelburne; the 2d do. to John N. Pomeroy, of Burlington; 1st premium on spring wheat, to Chester Blin, of Shelburne; and the 2d do. to Chauncey Goodrich, of Burlington.

The winter wheat was of the white flint variety. Mr. Comstock's was raised on a *slaty marl* soil, and produced the great quantity of 41 bushels to the acre. Mr. Pomeroy's was raised on *pine plain* land, and his field averaged 21 bushels to the acre. Both specimens were fully equal to any raised in the wheat district of Western New York or Maryland. Mr. Blin's spring wheat was grown on a soil of a gravelly loam, planted last year with corn, highly manured; produced 31 bushels to the acre, of the bald red chaff variety. Mr. Goodrich's was grown on a dry gravelly soil, plowed for the purpose of seeding for pasture land; slightly manured and planted with potatoes in 1845; plowed and harrowed; seed, 1 bushel and 12 quarts, plowed in, and one bushel of plaster and six bushels of slacked lime sown on it, product 22 bushels on one acre.

On Indian corn, they awarded the 1st premium to John G. Goodhue, Jericho; 2d do., Col. Smith, St. George; 3d do., Chester Blin, Shelburne; 4th do., Warren Ford, Essex. The product was 94½, 93, 85½, and 80 bushels to the acre, estimating one bushel of shelled corn for two bushels of ears.

Mr. Goodhue's corn was grown on green sward, long manure plowed in, and rotted manure spread on the surface, and an equal mixture of plaster, ashes, and lime, at the rate of one spoonful (how large a spoon?) to each hill. Mr. Ford's was grown on green sward, and manure plowed in.

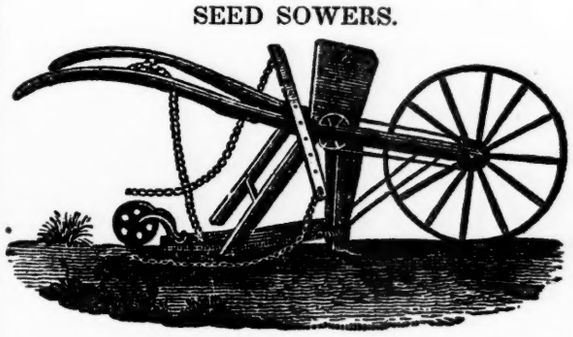
On Oats the 1st premium was awarded to Levi Comstock, of Shelburne; 2d do., to N. Stearns, of Williston; 67 and 64 bushels to the acre. On Beans, 1st premium to Wm. Bowman, of Westford; 2d do., to Geo. Saxton, Shelburne; 15¼ and 15 bushels to ½ acre. On Potatoes, 1st premium to Chester Blin; 2d do., to Nathan Stearns; 1st, 217 bushels long red, 2d 131 bushels King potatoes on ½ acre. On Carrots, 1st premium to Tristam Conner, of Burlington; 2d do. to Usal Pierson, of Shelburne; 1st, 300½ bushels, long orange, 2d, 215 bushels Altringham, on ¼ acre.

CULTURE OF WHITE MUSTARD.

When in England, we often noticed the white mustard, *Sinapis alba*, occupying the poor, thin soils of the country, and were informed it would grow quite well where no other crop would flourish; that it answered an excellent purpose to turn in green for manure; and not unfrequently it was fed off with sheep to considerable advantage, and thus formed a good preparation for the turnip crop. Its seed is also valuable as a condiment. We are persuaded that white mustard would do well on the poor, sandy soils of Long Island, New Jersey, and other parts of the United States. We will now give the method of culture as practised in England.

Prepare the land by plowing, the same as for any other crop; but see that it is harrowed deep and fine. Sow in drills about six inches apart, or broadcast, as soon as danger from frost is past, which in this latitude is usually the last of April or forepart of May. From 5 to 8 quarts of seed per acre is sufficient. Harrow or bush it in, and then roll the surface with a tolerably heavy roller, especially if the soil be light or at all shifty. It grows from 2½ to 3 feet high. It will be fit to be fed off by sheep in 5 to 7 weeks after sowing, or just before coming into blossom. It must be fed sparingly to them at first, or it might do injury. If to be plowed in for manure, let it stand till it is in full bloom, and then turn it under with a wide pointed two-horse plow.

SEED SOWERS.



Seed Sowers.—Fig. 14.

Seed Sowers are of many kinds, and prices vary accordingly, from $3 to $15. The cheaper kinds we consider as entirely *worthless* to sow any but the *smallest* seeds, such as onions and turnips. We have recently got up an improved Seed Sower, something like the above cut. The person using it takes it by the handles, the same as he would a wheelbarrow, and trundles it rapidly along, sowing from two to five acres per day, according to the distance of the rows apart. These implements save half the seed or more over hand-sowing, thus making a double saving. The seed is put into a hopper, and falls through a funnel into a drill made by the share, and is then covered by the roller. It can be set to plant at different depths. It is useless to attempt to use it in a stiff clay soil; the ground must be fine and well pulverized to ensure its working well. In the Improved Seed Sower, there are two cylinders; one is used for sowing onions, turnips, carrots, parsnips, millet, and other light grain. This is then taken out and another cylinder is inserted for sowing beets, peas, beans, corn, &c. The price with single cylinder is $12.00. With extra cylinder $15.00. It is very strong and complete, and we do not hesitate to say the best now in use.

Arabian Mode of treating Horses.—However poor, an Arab is never without a good horse; and he will often take pleasure in looking at it for an hour together. The horse is washed, but never curried. As soon as a colt is a year old his mane and tail are shaved, to make the hair grow again as thickly as possible.

Are you insured against fire? If not, no time should be lost in attending to it

THE HORSE.—No. 3.

The Anatomy of the Muscles.

The bones of the whole body constitute a framework to which the numerous muscles (which are concerned in, and are the means of the various motions of the animal) are attached. The bones are not smooth, but have an uneven surface, and present depressions and elevations; these elevations are like nipples, and are called nipple-shaped processes, or tubercles. Into these depressions and on to these tubercles, the muscles are attached. The bones are levers, and the power of their motion is the muscles.

In our discussion we propose to direct attention mainly to those bones and muscles only which are concerned chiefly in the travelling, carrying, and drawing motions of the horse. These bones and muscles are mostly those of the body and legs, and consequently the body and legs, in their bony and muscular anatomy, will be treated of. We content ourselves with an enumeration of the bones of the head, as the head is only in a small way employed in motion or draft. The power it has over either arises from its elevation or depression. When the horse increases his pace he lowers his head, if it be free; when he is called on for greater exertion in draft, he also lowers his head. Without this depression of the head, and that to the level of the body, the horse cannot reach the height of his speed, nor the utmost of his power of draft. In ordinary motion or draft, the head is not so low as the level of the body; it is only in his higher and more powerful exertion, in either speed or draft, that the horse brings his head to the level. It is then the position of the head, and not its power, which is concerned in motion or draft. Consequently, in animal mechanics, it is relatively of small consequence. The head is not even held up in its natural position by the muscle, but by a strong ligament or cord called the pack-wax, which is attached to the head at one end, and on the withers at the other, and thence into the muscles of the back. When, however, the head is to be depressed, the muscles of the neck and shoulder are called on to do it. Thus the bones and muscles of the neck, as well from their shape as from their size, are of importance in the power of the horse for motion.

Muscles of the Neck.—We shall first consider the muscles of the neck. They lie chiefly in the lower part of the neck, and end in tendons at or near the head. Those concerned in the raising and lowering of the head and turning it in various directions, make a complicated system. Two of the most important of them are the *splint-like* muscle and the *large* complicated muscle. The splint-like muscle constitutes the bulk of the neck on its upper side, *c*, fig. 15, and is attached to all the bones of the neck except the upper one, called the *atlas*, nearest the head. From this muscle a tendon goes to and attaches itself to the atlas and the bones of the temples. Its office is to elevate the head and neck, and for this it is very powerful, as it must needs be; upon it depends the beauty of the neck. As it is more or less developed, so will the neck be more or less arched, but it should be light above, and large below and at the junction of the neck with the shoulder. From it arises the thickness and muscularity of the neck, and if full at the lower part and light at the upper part of the neck, the neck itself, when joined well to the head, will be perfect. Clumsy necks arise from too much cellular substance or fat, and not from this muscle, as also do lofty crests. Mares and geldings have rarely clumsy necks or lofty crests.

The large complicated muscle is the largest and most powerful in the neck. It arises from the five lower bones of the neck, and makes the bulk of the lower part of the neck, *d*, *e*, fig. 15; at its upper part, as it nears the head, it lessens its bulk and unites in part with the same tendon as the splint-like muscle, but is principally joined to the bone of the back part of the head. It assists to raise the head and neck, and it is particularly concerned in raising and thrusting forward the nose. When too powerful, it makes the nose *stick out*, and deforms the horse. The martingale is used to counteract the force of this muscle. When this muscle is very large and the splint-like one quite small, the horse will be ewe-necked, hollowed (or at least straight) above and projecting below. In such a neck the nose protrudes and can hardly be got down.

The Muscles of the Neck.—Fig. 15.

The *small* complicated muscle, the *straight*, and the *oblique* muscles of the upper part of the neck, attached mainly to the two upper bones of the neck, *a*, fig. 15, are also employed in raising the head.

One of the muscles used to lower the head is attached to the breast bone, and lies next to the skin; it proceeds up the neck, and near the head changes into a tendon, and is inserted into the lower jaw near its angle, *b*, fig, 15. It is used to bend the head towards the chest. Another muscle concerned in lowering the neck springs from the back of the head and the first or four upper bones of the neck, and the pack-wax proceeds downward, mixes with the muscles of the shoulder, and attaches itself to the lower shoulder bone (*m*, in fig. 11, p. 48); it also assists in raising the shoulder.

The muscles of the neck are all double (in pairs), one on each side of the neck. To raise or depress the head they must act together. To turn the head and neck to one side, one only must act, on the side to which the head and neck are to be turned; if an elevating muscle, then they will be raised and turned at the same time; if a depressing muscle, then lowered and turned. Thus is provision made for every kind of motion of the head and neck.

Muscles of the Breast.—The muscles of the breast are very important. They are largely concerned in the expansion of the chest; and are the power by which the arm in rapid motion is confined to the side, and thus keep the leg in a straight line before the horse. The chief of these is the pair of *transverse muscles* of the breast. They form two full points in the front of the breast; they spring from the upper and front part of the breast, consisting of the four first bones of the breast, and are attached to the lower end of the lower bone of the shoulder, extend backward between the legs, pass across the inside of the arm, and reach from the elbow almost to the knee. These muscles act to place the fore legs in that position which will allow them to receive the weight of the body in the easiest manner, and with the least shock.

The *great* and *small muscles* of the breast lie above and behind the transverse muscles; they extend from the breast bone to the arm of the shoulder; their office is to draw back the point of the shoulder and bring it into the upright position. There is still another muscle which goes from the breast bone to the shoulder blade. It assists in the same office as the *great* and *small* breast muscles. It is less in size than either of the others. A horse not well developed in the muscles of the breast will be deficient in power. He will not have the power to expand perfectly the chest, so that the lungs must suffer when taxed by violent motion to increased action; and this even if the lungs be large enough. Nor will the horse be able to use his fore legs to full advantage. These breast muscles must be large to allow the horse to avail himself of the full power of the muscles which are used to propel forward his carcase. The progressive muscles have enough work of their own to do, and will not long last if called on to do that of other parts. These breast muscles have more to do in supporting the weight of the body and giving direction to motion than in creating motion; if they be not competent to their office, other muscles are called upon to overwork themselves to supply the deficiency, viz. the muscles of the shoulder and haunch in motion, and the muscles between the body and shoulders and the muscles of the belly (abdominal muscles) in breathing. Then the breast muscles should be large to produce and preserve a proper balance both in action and breathing.

CHARCOAL, CROWS, AND BLACK-BIRDS.

Pounded charcoal, or the refuse of the heap, should be thickly strewed over every place where filth is allowed to accumulate. It absorbs the bad smell, and makes an excellent manure of what otherwise would not only be useless but offensive. It also prevents the larvæ of insects from becoming flies or moths. Pigs like to eat charcoal, and are thought to fatten on it; and in the course of the summer months, I frequently have a bushel or so at a time thrown over the pen. It makes the manure so much more valuable that I find it worth while to buy it for the purpose; and in so doing the pens are never offensive.

Is it true that black-birds and crows do more harm than good? and is it necessary to poison or shoot the pretty creatures, in order to secure our crops of corn from destruction? Doctors, or I should say farmers, differ so much about it, that as I am neither one nor the other, I feel quite incompetent to give an opinion on so grave a question, or offering myself as a judge between the contending parties; yet I love the whole race of birds, and have heard some good arguments advanced in their favor, and should like to hear more in support of my favorites. Rookeries are protected by law, in England, yet I guess they destroy cut-worms and corn about as effectually as crows or black-birds do for us. What light can Reviewer throw on this *very dark subject?*

Eutawah. E. S.

THE OX CHARLES.

This fine ox (or steer as the butchers call him and every bullock under seven years of age), was bred by Edward Leroy, at Avon, Livingston county, New York, roan in color, and was calved in May, 1841. He was got by Mr. Leroy's imported Short Horn bull Windle—(5567) vol. 4th of the Herd Book; his dam by the Short Horn bull Avon (owned by Mr. Leroy and bred by John Hare Powell, of Philadelphia); his grandam was an imported Dutch cow.

In 1825, the late Hermon Leroy (father of Edward Leroy), of the city of New York, imported from Holland twelve cows and a bull of the black and white Dutch cattle. They were placed on the farm of Edward Leroy, at Avon, and bred under his supervision. The original stock were all great milkers, but bad handlers, and poor thrivers as beef cattle. Possessing great constitutional stamina, they offered a capital original for improvement. Mr. Leroy's object was to improve the carcase and preserve the milking quality. To effect this he resorted to the Short Horn bull. He procured, at different periods, two from J. H. Powell, of known milking families, and bred the imported cows and their descendants to them. In 1835 he imported from England the bull Windle, bred by Mr. Pilkington, of Windle Hall, Lancashire, got by Hopewell, dam Moss Rose (bred by Mr. Stephenson, at Stockton-on-Tees, and of his choice blood of the Princess tribe) got by Waterloo—(2816) 3d vol. Herd Book. The daughters of his two first Short Horn bulls were bred to Windle. The greatest care was taken to preserve in its original fullness the milking quality, and the result has been a great feeding quality added to great capacity for milk.

Of this strain was the ox Charles. He was sold when a calf to Mr. Olyphant of Mount Morris, Livingston Co. by whom he was raised and fed. From a calf he showed at all times a great feeding quality, and at five years had attained a live weight of 2700 lbs. He was shown in September, 1846, at the show of the Agricultural Society of the State of New York, at Auburn, and won the first prize as the best fat animal shown. He was brought to New York and exhibited at the show of the American Institute, in October, 1846, and won the first prize as the best shown. He was then sold to Thomas H. Devoe, of the Jefferson Market, Sixth Avenue, New York, and was slaughtered and exhibited at that market on Christmas day. Finer beef was never seen or eaten. The whole carcase was evenly covered with fat, and the beef was beautifully marbled, cutting up in the most spark-

ling manner. The carcase was dressed in the most tasty and capital style by Mr. Devoe, and the dead weight was 1664 pounds beef; 255 pounds rough tallow; and 116 pounds of hide; total 2035 pounds.

Alive, this fine ox indicated all the good qualities that his dead carcase showed. His handling was superb, and his beef was beautifully mixed, fat and lean, and was very juicy. We can speak from authority, for we not only saw but ate of his beef. Finer we never saw, finer we never tasted. It is a credit to have bred, a credit to have fed, and a credit to have slaughtered such an ox; and a luxury it was to eat of his beef.

NEW YORK FARMERS' CLUB.

THE last meetings of this Club have been unusually well attended, and if we rightly judge, this institution is gaining popularity and favor in all parts of the country. Among the subjects for discussion, since our last report, was a continuation of "Manures and the means of restoring fertility to exhausted lands."

Salt Grass and Muck as Manure.—Mr. Hall of Perth Amboy inquired the best mode of making manure from the grass and mud of marshes overflowed by the sea. Dr. Underhill replied that the method usually practised was, to dig up the mud in the fall, and allow it to freeze during the winter, and then to employ it as a top-dressing on the land in the spring; but if wanted for more immediate use, it could be converted into a good manure in a month, by mixing two loads of newly-burnt shell-lime to fifteen loads of the mud.

Lime as a Fertilizer.—A somewhat animated discussion took place by Drs. Field and Underhill, and Messrs. Judge Van Wyck, R. L. Pell, Col. Clark, and J. Orville Taylor, of Saratoga county, on the use and application of lime as a manure.

Mr. Van Wyck strongly advocated the use of lime, when judiciously applied; but did not regard it as a fertilizer in itself, but an agent which collects carbon and moisture, and then imparts them to the roots and leaves of plants. Lime, he contended, is excellent to dissolve those manures which without it would be insoluble; and when applied to soils chiefly composed of clay, it renders them friable and mellow. He did not consider it, however, so suitable for dry, sandy soils, nor could it be profitably used on those exhausted by tillage. On the sandy plains of Long Island and New Jersey, if marl or putrescent manures can be used, he said lime may be judiciously managed; but if applied merely to sand alone, it will not only become converted into mortar, in time, but a hard cement. He cited an instance where lime had been employed with advantage, at the rate of 400 bushels per acre.

A difference of opinion seemed to prevail whether caustic or unslacked lime can be used without injury or loss in making composts, or in being applied directly to the soil in a course of tillage. (*a*)

(*a*) *Lime*, according to the best authorities, is considered the most valuable of the fossil manures, and for cold mossy soils it is indispensable. It may be obtained in most situations, and should be covered from wet, and not slacked till laid upon the land. It must then be regularly spread, and immediately harrowed in with the seed, but not too deeply, for lime ought to be kept near the surface. Lime is also extremely useful as a compost, and as a top-dressing for grass-land; but it is comparatively useless, if laid on wet undrained land. The quantity used must depend upon the nature of the soil for whilst 80 bushels per acre are sufficient for sandy soils, loams will require 100, and clay 150 bushels per acre.

Quick-lime decomposes any hard vegetable substance in the soil, and converts it into food for the cultivated plants; and hence its value when applied to the mossy land. It improves a soil destitute of calcareous matter. It separates the particles of stiff soils, making them more friable, and acts upon light soils by making them more firm and adhesive, thus rendering both soils better adapted for the growth of plants. Soils containing pyrites (sulphuret of iron) are greatly benefited by the addition of lime, as the pyrites are decomposed, forming gypsum, while the iron remains inert.

The benefit to be derived from lime greatly depends, however, upon the nature and the state of the soil. Strong lands are much improved for two or three crops by this stimulant; but frequent repetitions will not have the same good effect, unless the land in the interim has been placed under a clover or other green crop, by which vegetable matter will be introduced for the lime to act upon.

The deficiency of vegetable matter in light soils, is one chief reason why lime does not always act upon them beneficially; and it should therefore be used very sparingly on these soils, with an interval of six or seven years between each liming. Indeed, it is often as necessary to change the mode of manuring land, as it is to change the crops to be cultivated; and it is from not sufficiently attending to this, that arable farms have become deteriorated, whilst the farmer fancied that he was doing great justice to the land by liming every third or fourth year. But let the introduction of a green crop be tried in such a case, and the farmer will afterwards find that his grain crops increase, and his land is in better heart.

On the first application of lime to land abounding in vegetable matter, it should be laid on in a partially slacked state. Its effects when so applied will continue, so long as it finds vegetable matter to act upon; but when lime is applied to land constantly in tillage, it has little or no vegetable matter to act upon, and therefore can have comparatively but little effect. On the cold peaty lands in Derbyshire, England, they lay on enormous dressings of lime in the spring, which by the end of summer completely decompose the coarse grasses and brings up an excellent herbage; but lime in such quantity would destroy vegetation, if applied on thin soils, or worn-out fallows.

In the application of lime to cold and newly-reclaimed land, which is generally surcharged with coarse vegetable matter, it should be a rule always to give abundance, and in a newly-slakced condition, in order that the lime may have its full effect. If slacked a considerable time before it is applied, it does not act so powerfully in reducing the noxious vegetable matter, or neutralizing the acids, as when applied in a hot state. On very thin moorish soils, however, lime by itself will not always improve the herbage. These soils require a nourishing, as

well as a stimulating application; and a top-dressing of earth and lime or even of good earth alone, will be found to have nearly the same beneficial effect that lime always produces on a stronger and deeper soil.

Some persons think, from witnessing its first effects, that they can always have recourse to lime with the same success; but in this they will assuredly be disappointed; once in five, six, or seven years, according to the nature of the land, is as often as lime can be applied with advantage.

Experience proves, that if lime be frequently used, it must be applied as manure, and not singly as a stimulant; and to this end, it must be compounded with earth, clay, and other matter, to which it communicates its stimulating qualities, whilst its fertilizing effects are thereby augmented. In this state it will act powerfully as a manure, and be a valuable auxiliary in the hands of the farmer.

Most varieties of subsoil strata make good compounds with lime. Sand and lime, with peat or turf, if it can be obtained, should be mixed for a clay soil; and subsoil clay and lime, for sands, gravels, loams, and peaty lands. No farmer need complain of want of materials to make fertilizing compounds, since every sort of soil may be used for this purpose; and not only is immediate fertility produced thereby, but there are few districts in the country, however barren, that may not be improved, or brought into a fertile state, by dressing with a well-proportioned mixture of earth, clay, sand, and lime. Care should be taken, however, to proportion the quantity of lime according as the land is light or heavy, cold or warm. Light soils have been hurt by too abundant applications of lime; and while one part of lime to from six to ten parts of earth may do for light soils, one part of lime to two, three, or more parts of earth, will be required for heavy soils.

The application of lime alone to land long under tillage, is often found not to be beneficial; but if the same quantity of lime had been applied in a compound state, with sand, turf, earth, clay, or vegetable mould, good effects would have resulted. On deep loams, lime may be applied in a caustic state, more frequently than to most other soils; but the testimony of experience is in favor of its being used in a compound state.

The most valuable variety of lime for agricultural purposes is that obtained by burning oyster-shells, and allowing it to remain exposed to the air a few hours in order to allow it to slack. Quarry lime is not so good on account of the magnesia which it often contains, and from its small quantity or total want of phosphoric acid. It should be used soon after burning, when, if it occurs in a powdered state, it may be air-slacked in the same manner as the oyster-shell lime; but if it occurs in stony lumps it must be slacked by sprinkling water upon it, and as soon as the particles fall asunder it should be immediately used.

RAT CHARMERS.—It is said there are men in London who possess the art of enticing rats from their holes, and constraining them, in broad day, to enter into rat-traps. The charm consists in some of the straw, placed in the trap, saturated with the oil of anise, and of cummin.

USEFUL TABLE FOR APPLYING LIME, CHARCOAL, &c.

PERSONS unaccustomed to the application of lime or charcoal to land, by sowing or spreading them upon the surface, are often at a loss to know how thick a coat to put on in order to dispose of a certain number of bushels to the acre. We therefore show at a glance, in the following table, the depth, to the nearest 1000th part of an inch, that a given number of bushels will cover an acre of ground, assuming the bushel to contain 2150.42 cubic inches; also the number of bushels necessary to cover an acre of land to a required depth:—

Bushels per Acre.		Depth. Inch. Decimals.	Depth. Inch. Tenths.		Quantity per acre. Bush. Dec.
20	=	0.007	1.0	=	2916.937
30	=	0.010	0.9	=	2625.243
40	=	0.014	0.8	=	2333.550
50	=	0.017	0.7	=	2041.856
60	=	0.021	0.6	=	1750.162
70	=	0.024	0.5	=	1458.469
80	=	0.027	0.4	=	1166.775
90	=	0.031	0.3	=	875.081
100	=	0.034	0.2	=	583.387
200	=	0.069	0.1	=	291.694
300	=	0.103	0.½	=	145.847

RENOVATION OF OLD GRASS-LAND.

WILL you inform me through your useful paper what quantity of bone-dust should be applied to the acre, the land having been mowed for many years? The soil consists of a yellow loam, and is covered with a stiff, heavy sward.

STEPHEN R. GRAY.

Instead of employing bone-dust the first year, we would recommend a top-dressing of 30 to 50 or even 100 bushels of partially slacked lime per acre, and if this could be incorporated with 20 or 30 loads of rich earth or muck, and the whole spread together, it would be still better. This will cause the coarse grass and weeds to disappear, and a rich sward of the sweeter herbage to rise spontaneously. The second or third year 10 to 15 bushels of bone-dust may be sown broad-cast to an acre, the stimulating and beneficial effects of which will be visible for several years. For further remarks on the application of lime to grass-lands, see our remarks on the preceding page.

TO REMOVE INCRUSTATIONS FROM BOILERS.—One of the greatest impediments met with in employing hot water as a heating medium, or for the purpose of generating steam, is its tendency to incrust the interior of the apparatus with carbonate of lime. In order to remove this difficulty, it is only necessary to add one ounce of sal-ammoniac (muriate of ammonia) to every 90 gallons of water with which the apparatus is filled. The acid, which holds in solution the lime, unites with the ammonia, while the carbonic acid of the carbonate of ammonia combines and falls down with the lime; but, upon the water being heated, the precipitated carbonate of lime combines with the salt of ammonia, is redissolved, and the carbonate of ammonia is formed and escapes with the vapors of the boiling water. Gardeners, cooks, and engineers, who are obliged to employ water charged with lime or salt, may learn a lesson from this, if they wish to keep their hot water apparatus in working order.

ANALYSIS OF THE OAT.—No 2.

(B)—OF THE QUALITY OF THE ASH FROM THE SEVERAL PARTS BEFORE MENTIONED.—This series of analyses by Mr. Fromberg has already involved a very great amount of labor, and is not yet by any means finished, extending only over 7 weeks of the 14, in which the determinations of the quantity of ash were made. They extend to the 16th of July; and, so far as they go, present a complete view of the curious and interesting changes which take place during the development of the various parts of the plant. As before, I will place the leaf first.

TABLE 6.

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.
Potash and Soda,	24.60	23.51	26.21	28.10	18.78	16.09	18.35
Chloride of Sodium,	16.34	13.54	11.30	7.56	7.92	4.09	0.30
Lime, - -	8.44	7.24	7.33	6.74	6.91	5.93	5.13
Magnesia, - -	5.33	3.11	3.47	3.06	2.39	2.35	1.63
Oxide of Iron, -	0.61	0.52	0.72	0.99	0.40	0.34	0.55
Sulphuric Acid, -	11.74	12.85	10.59	7.88	9.50	6.45	13.05
Phosphoric Acid,	16.16	10.57	10.12	8.76	6.92	6.44	2.91
Silica, - -	16.58	28.54	30.31	36.50	47.62	58.28	58.22
	99.80	99.88	100.05	99.59	100.14	99.97	100.14

Composition of Ash from the Leaf of unripe Oats at different periods of growth.—Perhaps the most striking feature in this table is the gradual disappearance of the chloride of sodium (common salt); from 16 per cent., in 7 weeks it decreased to less than a third of one per cent. A large quantity of soda yet remains, nearly all in the state of sulphate, no doubt. The phosphoric acid, too, disappears in a great degree. There were at first probably phosphates of potash and soda, but these must have left the leaf to supply the grain, and on the 16th July the small quantity of phosphoric acid left was nearly all in combination with lime, magnesia, and iron. The oxide of iron seems to have fluctuated in its proportions less than any of the other substances.

TABLE 7.

Day of the Month received.	June 4.	June 11.	June 18.	June 25.	July 2.	July 9.	July 16.
Potash and Soda, -	24.94	21.45	26.49	28.86	36.26	30.10	42.43
Chloride of Sodium,	32.66	34.65	24.94	24.57	11.62	17.82	4.46
Lime, - - -	2.40	4.22	3.74	2.42	2.64	1.60	4.12
Magnesia, - -	0.88	3.20	2.20	2.58	1.17	2.27	1.47
Oxide of Iron, -	0.39	0.30	0.40	0.58	0.88	0.68	0.62
Sulphuric Acid, -	6.15	7.82	8.51	4.87	7.98	9.09	7.84
Phosphoric Acid, -	16.15	13.96	12.55	7.81	2.21	5.57	6.31
Silica, - -	16.29	14.32	20.41	28.08	36.64	32.39	34.85
	99.86	99.92	99.24	99.77	99.40	99.52	100.33

Of the Composition of Ash from the Stalks of the Unripe Plant.—The decrease in the quantity of chloride of sodium is here also very remarkable, from 32½ to 4½ per cent. The phosphoric acid continued without much variation until the 25th June, when the oat itself began to form; by the 2d of July the oats had shot up from the stalk and become visible; in that week a marked and sudden decrease took place in the phosphoric acid. In the two succeeding weeks it began again to increase. No very great changes seem to have taken place in the other constituents, excepting the gradual increase of silica. The composition of the stalk on the 16th of July differs very greatly from that of a mature stalk, as will afterwards be seen. It was then still green and vigorous, growing rapidly, and serving as a canal for the conveyance of a great portion of their food to the other parts of the plant. The inorganic ingredients, therefore, might be expected to vary, as we see them, with the fluctuations of temperature more or less favorable to vegetable growth.

TABLE 8.

Day of the Month received.	July 2.	July 9.	July 16.
Potash and Soda, -	32.92	31.31	31.37
Chloride of Sodium,	10.37	8.10	0.61
Lime, - - -	2.70	5.40	6.76
Magnesia, - -	3.44	4.52	2.94
Oxide of Iron, -	0.39	0.21	0.35
Sulphuric Acid, -	10.35	12.78	16.42
Phosphoric Acid, -	14.02	20.09	15.19
Silica, - - -	24.40	17.05	26.05
	98.59	99.46	99.69

Composition of Ash from the whole Oat, at different periods of its growth.—During these three weeks the oat attained nearly its full length, but was yet quite green, and the grain had scarcely begun to form in the interior of the husk. The above table, therefore, only enables us to compare the earliest part of its growth with the latest as afterwards given. The diminution of chlorine is, however, to be noticed as very great in the short space of three weeks. I think the large quantity of sulphuric acid present at this time would have diminished, as I have seldom found so much in the ash of the ripe oat.

Comparative View of the Composition of the Ash from the Leaf, Stalk, Oat, Knots, and Chaff, on the 16th of July.—[See Table 9.]—On the 16th of July the plant was in the midst of its most rapid growth, and just half-way between the time when it appeared above ground in June, and when it was cut on the 3d of September. In the table on the following page will be found a comparison of the ash from these parts of the plant when fully matured.

Organic Constituents of the Unripe Plant.—In connexion with the first chapter of my subject, I have hitherto said nothing of the organic constituents of the unripe plant. Mr. Fromberg has determined the nitrogen in the unripe oat at six periods of its growth, and also when it had become fully ripe. The adjoining table [Table 10] gives his results.

TABLE 9.

	Leaf.	Stalk.	Knots.	Chaff.	Oat.
Potash and Soda,	18.35	42.43	39.21	15.39	31.37
Chloride of Sodium,	0.30	4.46	0.60	2.01	0.61
Lime, - - -	5.13	4.12	4.75	4.58	6.76
Magnesia, - -	1.63	1.47	4.51	3.10	2.94
Oxide of Iron, -	0.55	0.62	1.02	1.50	0.35
Sulphuric Acid, -	13.05	7.84	27.94	9.90	16.42
Phosphoric Acid, -	2.91	6.31	9.03	7.26	15.19
Silica, - - -	68.22	34.85	13.23	56.38	26.05
	100.14	100.33	100.29	100.12	99.69

TABLE 10.

Day of the Month received.	July 16.	July 30.	Aug. 13.	Aug. 20.	Aug. 27.	Sept. 3.	Quite ripe.
Per centage of Nitrogen in Undried Oat,	0.51	0.51	0.62	0.66	0.97	1.52	1.87
Do. do. in Dried Oat,	1.71	1.35	1.38	1.31	1.79	2.20	2.18
Do. do. of Protein Compounds in Undried Oat,	3.24	3.24	3.90	4.15	6.10	9.58	11.80
Do. of do. in Dried Oat,	10.75	8.50	8.69	8.25	11.26	13.84	13.72

The steady increase of nitrogen from the 30th of July is very striking. Had time permitted, it would have been of much interest to determine the other organic constituents, both proximate and ultimate. This tempting field we have been obliged to leave for future exploration. I shall next pass on to that part of the investigation upon which I have principally been myself engaged.

JOHN P. NORTON.

TRANSPLANTING TREES.

HAVING noticed in the December number some interrogatories of an inquirer on this subject, it occurred to me that some general remarks on a topic in which every occupant of a rod of ground should be interested might not be amiss.

First then, your inquirer refers to a caution published in an earlier number of the Agriculturist, "against transplanting trees while the sap is in circulation," assigning as a reason that it cannot be done without injuring them.

Now I suppose that correspondent will admit that the sap is *the blood* of plants, and that it carries and deposits the material of growth in the vegetable system as the liquid we call blood does in the animal. If this proposition is admitted, then I should like to know at what season of the year (unless its progress be stopped by frost) the sap is out of circulation? It surely is in spring, and in autumn, after the fall of the leaf, for if a tree be wounded, the liquid element flows out in quantities and character not to be mistaken. It must also circulate in summer, for when a branch is broken off we see its leaves wither from the withholding of their natural element; so, too, if a tree is cut down or broken off by the wind, we see the same result. It is also manifest in the grass of the field, which flourishes until the hand of the mower lays it prostrate at his side, when it soon withers and dries up.

But without entering into further queries in this matter, I will suppose that what the writer means in his allusion to circulation, has reference to the seasons when there is a visible flow of sap, or, in other words, when the tree or shrub bleeds on being wounded, periods in deciduous trees which precede the putting forth of the leaves and return of frosty weather after their fall in autumn. Taking this supposition for truth, I am ready to admit, with the correspondent, that the tree is in danger from careless removal, for if it is much mutilated in the process, unless precautionary measures are adopted, there will be danger of its bleeding to its serious injury, if not to its utter ruin. In such cases, then, the tree should be taken up with care, and with as little wounding or breaking of the roots as possible. To exercise a perfect surgical operation, the bruised and wounded parts should be cut off *smooth*, with a sharp instrument. Some application should then be made to close the pores, to prevent a further effusion of sap. The most convenient and successful way of doing this, is to dig a trench of sufficient size to admit freely the roots of such trees as you are taking up, which trench fill with water, and to this add one-third of recent cow-manure (a substance the healing qualities of which on timber cannot be too highly recommended), and two-thirds of sand or finely pulverised earth, which stir until they are thoroughly mixed and are of the consistence of a thin hasty-pudding. Into this put the roots of the tree as soon as taken from the earth, and the necessary pruning is performed, and move them backwards and forwards and sideways, until you are sure that every wound has received a portion of the adhesive mixture; after which set them in their new localities, with proper care, and I am certain that the most ignorant cultivator will meet with merited success. If you prune the top, the same application may be made with equal advantage.

To the inquiry, whether deciduous trees are removed more safely in the autumn or spring, I would say, that matter depends somewhat on the season. It is much better to transplant in autumn if you can be assured that the coming spring and summer will be dry; but in ordinary seasons it matters but little whether spring or autumn, if the operation be properly performed. I have taken up trees four feet high in July, and treating them in the manner above described, and had them live. These, however, were removed but a little distance, were sheltered from the sun, and liberally watered, more for experiment than profit. In removing in the fall, I

should prefer doing it as soon as possible after the leaves have ripened, and in spring at the bursting of the bud.

As to removing evergreens in the Middle States, my remarks may not apply, for in this matter I shall confine them to my own experience. For experiment sake, I have set them of various sizes in every month of the year, and have them now living and doing well that were so set. Yet I have found a *choice* of times, which is after the bud has burst in the spring, and a new growth commenced, which time, in the land of my sojourning, is from the 10th to the 20th of May, or in very late seasons extended to the 1st of June. In removing evergreens I would select from open pastures and take up as much of the soil as possible. In such places, there is but little difficulty in taking all the root and all the earth, and success is almost certain.

Mount Osceola, Jan. 25th, 1847. W. Bacon.

CULTIVATION OF INDIAN CORN.

At your request I submit a statement of my mode of cultivating Indian corn, with such remarks appertaining thereto as the subject would seem to require. The island on which I live is situated in latitude 43° 40′ N., and comprises about 1,100 acres, a large portion of which is good arable land, the remainder being occupied by pastures or reserved as woodland. The soil consists of a brownish-yellow loam, which, when tilled, becomes warm and retentive of manures. The subsoil is of a bright yellow, underlaid by a hard-pan, varying in depth and thickness. A specimen taken from a highly cultivated field, which had produced 130 bushels of corn to the acre, as analysed by Dr. C. T. Jackson, of Boston, gave the following results:—

Mechanical separation of 1000 grains of gravel, sand, and loam.

Coarse pebbles,	90
Fine pebbles,	260
Fine loam,	650
	1000

Chemical analysis of 100 grains.

Insoluble silicates,	80.8
Peroxide of iron,	2.2
Alumina,	4.0
Salts of lime,	0.4
Magnesia (a trace),	—
Phosphate of alumina (a trace),	—
Vegetable matter,	8.7
Water,	3.9
	100.0

500 grains of the soil were digested in boiling water—2.3 grains dissolved. The solution was of a yellow color, and consisted of

Vegetable matter,	2.0
Mineral matter,	0.3
	2.3

The residue from the solution before burning was acid, and after burning, alkaline. The acid was then a vegetable acid. The following substances were taken up by the water, viz.—muriatic, sulphuric, carbonic, and phosphoric acids, soda, lime, magnesia, silica, iron, and manganese.

The rotation of crops which appear to be the best adapted to my farm is, 1st, potatoes; 2d, Indian corn: 3d, wheat; and then lay down to grass and continue it for mowing until bound out—say six or seven years. Preparatory to planting my potatoes I usually plow the sward soon after haytime, and let it lie in the furrow until the following spring. The ground is then cross-plowed, thoroughly harrowed, and planted with potatoes, in rows three feet apart in one direction, and two or two and a half feet in the other, with no manure except a little plaster of Paris put in each hill. My average crop of potatoes is about 300 bushels per acre.

After harvesting the potatoes in the fall, I cart on 18 or 20 loads of barn-yard manure to the acre (50 bushels to each load), which is spread broadcast and then plowed in. From the beginning to the middle of the May following, the ground is well harrowed, and 30 loads of green, unfermented stable manure, made during the winter, are added, which is immediately after plowed in, sufficiently deep to be well covered. By this process, the coat of fine manure, applied the fall previous, becomes well incorporated with the soil, and gives the young corn-plants a rapid start in the earlier stages of their growth, while the coarse manure, applied in the spring, lends its aid in filling out the ears. From the 20th to the 25th of May the ground is again well harrowed, and shortly after planted with corn. The variety I employ, which sometimes bears my name, was produced by cultivating, for a succession of years, selected ears of the northern eight-rowed yellow, with cobs having small butt-ends, of good length and uniform size, the second ripe in the field, and taken from stalks bearing more than two ears to each. The grains of this corn are large, the cob small, and the ears are usually from ten to thirteen inches in length. The largest crop I have raised is 136 bushels per acre, weighing in the ear 9,520 lbs., or 70 lbs. to the bushel, and 59 lbs. per bushel when shelled.(*a*)

I plant my corn in hills (four kernels to each), three feet apart one way, and two feet the other, reducing the number of spires in each hill to three, at the first hoeing, which is neatly done, without cultivator or plow, when the plants are about three inches high. In the month of July, I give the corn a second and third dressing, by lightly moving the surface of the soil with the hoe, without making any mould or hill, leaving the ground quite level and smooth. Early in September, or as soon as the ears are completely formed, and their silks begin to dry up or wither, I top the corn and preserve the stalks for winter fodder. Towards the end of that month the crop is usually harvested, immediately after husked, and stored on the ear in the granary until required for the market or the mill.

In preparing for the third crop in rotation, directly after the corn is harvested, the ground is plowed and left in the furrow until the April following, when it is cross-plowed and well harrowed, as soon as it is sufficiently dry, and each acre is sown with 1¼ bushels of Siberian or tea wheat, 5 lbs. of clover seed, and a quart of herds-grass seed (Timothy).

Preparatory to sowing the wheat, I wash it in several waters, and then add the grass-seed with about four quarts of air-slacked lime, well mixed. After the seed is sown, the ground is again thoroughly harrowed, and lastly rolled, in order to leave

an even surface for the subsequent mowing. In favorable seasons, my wheat crops average from 25 to 35 bushels per acre.

Long Island, JOHN BROWN, 2ND.
Lake Winnipisiogee.

(*a*) This variety of corn, from the high degree of latitude in which it grows, appears to be adapted to all the New England States, New York, New Jersey, a portion of Pennsylvania, Ohio, Michigan, Illinois, Canada West, Iowa, Oregon, &c. We have ordered some for seed, and shall soon have it on sale.

ADVICE TO EMIGRANTS.

THE western country, like most all new countries on their first settlement, is subject to general and fatal maladies, and this will continue to be the case until its settlement and improvements become extended over its entire surface, so that every stagnant marsh and pond shall be opened, its poison let loose, and exposed to the neutralizing effects of the elements. This fact seems to be little known or thought of by new settlers, especially those who come from foreign countries. I do not wish to be understood to say aught against emigration, because a new country is sickly; for emigration is necessary.

Generally speaking, the first and main object in view by the emigrant, is to get rich land, for it is natural to expect that the products of such a soil will be more abundant. But where is it found? On streams, the borders of rivers, lakes, marshes, &c., and here the location is made. And what is the result? Before the first season half expires, and before the time of harvesting is past, he and his family are prostrated by sickness, his crops are lost, or destroyed, and if he and his family are fortunate enough to recover, which often is not the case, he finds his prospects are blighted, becomes disgusted with the country, and nothing can satisfy him but to return. To effect this his farm and home are sacrificed, or abandoned, and he finds in the result, on reflection, that he has committed an error in the operation.

To those about to emigrate to this country, I propose to offer a little advice, founded on more than eight years' experience. And will it be improper to ask, who is more capable of giving such advice than a physician?

The active principle or cause of our bilious fevers and epidemics is *malaria*, or a poison generated by the decomposition of animal and vegetable matter, which exists in stagnant ponds, marshes and streams. The intense heat of the sun acting upon this poison, causes it to be developed and spread its deadly effects. Hence we find in seasons of uncommon dryness with much hot weather, that sickness is most prevalent and fatal. So subtle and active is this poison that I have frequently known in sickly seasons whole neighborhoods to be prostrated within the space of a week. In such times people have been known to rise in the morning apparently in health, and before noon to be attacked with a burning fever, or sinking with a coldness and lividness of the whole body resembling all the symptoms of the Asiatic cholera.

The question may be asked by many who have already made up their minds to emigrate to this country, whether the disease is fatal? Why, it is so to those who neglect skilful assistance in season, but to those who have timely and efficient aid it does not generally lead to any serious result.

I hold that knowledge of every kind, and particularly that which concerns life and health, can be of no injury to any one, and in my opinion, emigration will only become safe and practicable when such knowledge shall become general.

It is hard to make some understand why locations near streams, marshes, and stagnant pools, are more unhealthy than higher and more elevated places. I have often been ridiculed for voluntarily advising people of their danger in such situations, unless they change their locality.

The past summer has been one of general sickness and fatality, in these parts, so much so, that grain has been suffered to stand in the field unharvested. Many who have large numbers of cattle have been unable to cut and prepare fodder for them; and in some counties in this and the adjoining states, courts have not been held at their usual terms on account of sickness. I have observed this season, and previously, that the fatality has been most prevalent among new comers, particularly the Germans. Had they the necessary information and all the requisite advice, much sickness and disappointment might have been avoided.

As parting advice, I would earnestly entreat all who are to come to this country, to select a farm or location away from streams and stagnant waters of all kinds. Do not let the idea of *just such a piece of land*, of having just such a *rich soil*, or water privileges, or nearness to market, allure you. It may seem healthy at the time, and those who are anxious to sell may tell you it is healthy; but pay no attention to them, for summer will again come, sickness will overtake you, and you will find that I am right. ANDREW STONE, M.D.

Crown Point, Lake Co., Ia.

SUPPOSED EFFECTS OF THE GASES OF BRICK-KILNS.

I OBSERVE that in the last number of your useful periodical, you notice some observations which I made at the New York Farmers' Club on the destructive effects of the gases of brick-kilns. Quoting, I presume, from a report made in another periodical, you have fallen into an error, which I corrected in that paper, and which you will oblige me by also correcting in your next number. [We have quoted no periodical in this case, within our knowledge.] I stated that the gases from brick-kilns, at the latter part of the burning, continued to pass off in great quantities, for from six to twelve hours; that they, or some one of them, were very injurious to fruits, vegetables, &c., when moisture was present in the atmosphere; and that, under certain conditions of the air, such for instance as the presence of a fog, a gentle rain, the wind passing over the kiln at this period, with a breeze so light as not to commingle the gases, or to dilute and dissipate them through the atmosphere,—they might extend a distance of eight or ten miles, and destroy the *leaves* and *fruit* of the *orchards* in its course, injuring those most that were nearest. And I added, that I could conceive it possible, under similar

circumstances, when the orchards were in bloom, for the delicate blossoms to be injured even at the distance of 12 to 15 miles. *I did not say the orchards would be killed, in either case.* I have arrived at these conclusions after a close investigation of more than seven years, during which period I have frequently witnessed the injurious effects of these gases strikingly manifest at a great distance from brick-kilns, as well as in their vicinity; always, of course, in the direction in which the wind was blowing at the time the gases were passing from the kiln.

During the past season the destruction of the fruit, the New Town Pippin especially, for many miles each side the Hudson River, between New York and Albany, has been very great. The season before the last the orchards generally escaped, owing to the prevalence of a drought for a great part of the spring and summer, though during a fog in June I lost the fruit on eight hundred New Town Pippin trees from the gas of a burning brick-kiln; for it is admitted that without moisture the injury is slight, if any, at any considerable distance from the kiln. I am well aware, while ascribing the great destruction of apples, &c., on the Hudson, to the gases of brick-kilns, that the little insect called the *Aphis* has also been very numerous, and proved destructive to the leaves of the trees, and consequently injurious to the fruit of many orchards; but any person who will take the pains to investigate the subject properly will find no difficulty in distinguishing the effects of the one from those of the other. When you examine the leaves on which the Aphis is making his banquet, you find him sucking the juices from the under surface; and the leaves appear thinner than those which remain uninjured. But where the injury is produced by the gases of brick-kilns, the leaf is destroyed on that part where the moisture would naturally settle; that is, the pendent or lower edge of the leaf is dead, and often cut off for half an inch or more, and the part adjacent turned a dark color. If the leaf is so bent or formed as to collect the moisture on any other portion of it, you will then find this portion also killed and turned brown. The wounds produced upon the leaves by the gas are far more injurious to the fruit than any arising from insects; for even where a small portion is destroyed by the former it produces diseased action in the whole leaf, and by corrupting the juices injures or destroys the fruit; and would in time no doubt injure the trees also.

I have no desire to represent the injury to fruits, vegetables, &c., from the gas of brick-kilns, any greater than it is, for I believe it is bad enough. My only object in bringing this subject before the community has been, that it may receive a thorough investigation; that the truth or fallacy of my statements may be proved; that if true (of which I have not a doubt), an end may be put to the evil as soon as possible, by discovering some material which may be mixed with the clay, or the bricks before burning them, in order to prevent the formation of gases destructive to vegetation. By burning only late in the fall, and during the winter months, no injury would be produced. This plan will be adopted the coming season by at least one proprietor of a large brick-yard, who has been convinced of the propriety of this course by the injury which his own orchards and those of his neighbors have sustained during the past summer. I believe a sense of justice and propriety will induce others to follow his example when they have looked into the subject. (*a*) R. T. UNDERHILL, M.D.

New York and Croton Point, Jan. 19th, 1847.

(*a*) The observations of Dr. Underhill may be corroborated to a considerable extent from several causes tried in Liverpool some time since, founded on proceedings by Sir John Gerard, of Lancashire, against certain alkali manufacturers for enormous injuries done to his woods. He claimed compensation of the defendants for extensive damage alleged to have been done to his timber by the vapor proceeding from the chimneys of the works, the effects of which were said to have been felt at a distance of one or two miles.

Notwithstanding there was much conflicting testimony adduced by the parties on all sides, it was incontestably proved that injury of the most extensive kind was caused by the acrid gases of the alkali works. The plaintiff rested his claims upon the fact that the trees most exposed to the works were most injured; that they had been healthy until said alkali works were put in action; that the destruction of the trees consisted in their leaves being scorched or browned; that they then became "stag-headed," and that there was no apparent cause for this sudden change from a state of vigor to one of rapid decay, except the presence of noxious acrid vapor in the air. That such vapor was discharged from the defendants' chimneys into the plaintiff's park and grounds, was proved by persons who had watched it; that it was of a very acrid nature, caused their eyes to smart, and produced coughing when it entered their lungs, although two miles off. That these symptoms indicate the presence of muriatic acid gas; that muriatic acid gas is largely thrown off by the chimneys of alkali works, and that it produces noxious effects on plants similar to those which were observed in the plaintiff's woods, was also conclusively established.

It was a noted fact that the injury was chiefly done to oaks, ashes, and larches. Not that other trees escaped; on the contrary, limes, beech, Spanish chestnuts, and elms, furnished their quota, but to an inconsiderable amount. Hazel, it is said, escaped altogether, and alders, sycamores, and young Scotch firs suffered little, if at all. Old Scotch firs were, however, greatly damaged. This is no doubt connected with the powers which different trees possess of resisting external poisons. The oak, larch, and ash, are the most tender leaved of forest-trees when the leaves are young, and it might be expected that they should be most easily injured by muriatic acid gas. The sycamore, on the contrary, is naturally able to resist the sea-spray, which has an analogous action to that of muriatic acid gas; hazels and beech are guarded by their copious hairs; alders by their glutinous varnish. Besides which, plants certainly have, like animals, specific powers of resisting poisons; and therefore it does not follow that because A and C are killed by x, that B, D and E shall also die. A dog is not killed by dropping hydrocyanic acid, perhaps the most subtle

of all poisons, upon its skin; a horse will take a pint of castor oil without danger; rhubarb will not act upon him at all, though it produces its usual effects on a cat; and opium, which so readily stupefies man, will hardly operate that way on a dog. A dose of chlorine which killed all the foliage of Escallonia rubra, hardly touched a Cineraria guarded by its natural wool, and did not in any way affect the young, tender, expanded leaves of Berberis aquifolium, although the old leaves were destroyed! In another case, when a strong dose of muriatic acid gas was thrown into a box containing various branches newly cut in the autumn from the trees, the following was found to be their condition twelve hours after the experiment:—

Scotch fir—little affected; larch—nearly every leaf killed; ash—every leaf killed; oak—youngest leaves only injured, old leaves not; whitethorn—youngest leaves killed, old, browned at the edges in various degrees, or not affected; sycamore—some leaves quite uninjured, others half killed, others quite; the leaves were only affected where the corrosive vapor had been condensed upon them in considerable quantity; alder—old leaves safe, younger leaves variously affected and curled; hazel—the same; elms—the same; grass—variously but not much affected, a good deal quite green, some quite brown.

Another curious circumstance on which the defendants' counsel much relied, was the presence of single dying trees among others that appeared uninjured. For example, a "stag-headed" oak might be found among healthy oaks, a dead Spanish chestnut tree in a wood near where another escaped, and so on. This was true; and it was argued that such cases completely overset the opinion that injury to the trees was caused by noxious matter brought to them through the air from a distance; for, said the counsel, "if the cause were referable to vapor, clumps of trees and not isolated trees would have been withered and destroyed." But these cases admit of an easy and satisfactory explanation, independently of the fact that they formed a great exception to the rule, which was that the trees did die in long lines or large patches. There can be no doubt that individuals of the same species have different vital powers; that what physiologists call *idiosyncrasy*, occurs among plants as well as animals, and that one individual is susceptible of a dose of poison which would be disregarded by another. In all epidemics the weakest persons perish first; if vermin attack animals the unhealthy are first seized upon; one man is intoxicated by a glass of wine, another will drink his bottle; one lady faints when violets are presented to her, another wears them on her person; one man is killed by four grains of opium, and another habitually indulges in nine ounces of laudanum daily. Here it is evident that there are great differences in the vital power of the same species; for there is a vital power which overrules all other forces, whatever materialists may say to the contrary. And so it is with plants, which are much like animals in many curious respects, not the least remarkable of which is the way in which they are influenced by poisons of whatever kind. This, then, is the undoubted explanation of what would at first appear an inexplicable mystery. A tree is naturally of a weak constitution; a stream of muriatic acid gas plays for an hour or two on its leaves, and it falls a victim. Another near it, in full vigor, resists the action so far as not immediately to die; but it is injured and becomes unhealthy, and when again exposed to a sufficient dose is advanced another stage in its downward road; and this action going on at various times, under various circumstances, will of itself produce a complicated result.

Two of the cases were decided in court in favor of the plaintiff, one was compromised, and one referred, in the latter of which the arbitrator awarded £300 for the damages committed, and directed the defendants to pay all the costs of the reference, so that the total damages were as follows:—Muspratt, £1000; Crossfield, £400; Gamble, £300; Kurtz, £300.

COTTON-GIN STANDS.

A few years ago, I thought of testing the relative value of cotton. I took from the pile I had been ginning a small parcel of seed cotton; also a sample from the pick room. The first I ginned on my spinning ginnet, which has small fine teeth, and cards that pass with sufficient velocity to clean each tooth. I sent to an excellent judge, a commission merchant, in Vicksburg, and also to New Orleans, samples of each for examination. I then went to work, raised my grates so as to give fewer teeth access to the cotton, to make them pass it out parallel with the grates, I decreased my speed by diminishing the whirl on the brush, and increased the size of the drum on the saw cylinder, and put it to work. This was the labor of my own hands; the consequence of which was, that I have sold cotton by the same agent at a cent a pound higher than others who had outsold me before.

I will give the figures. My driver on the old stand is 50 inches in circumference; the whirl that gives motion to the brush, I cut down to eight inches, thus giving my brush over six revolutions to one of the saw. The saws had about 200 to 220 revolutions to the minute, and my brush had over 1200 revolutions.

A gin-stand should be run very steadily, and very regularly, with a gin-band seven or eight inches wide at least. *Keep it well oiled with neats-foot oil and tallow mixed, to prevent slipping.* This will be worth the subscription of your paper ten times told, to many young planters, for I have tried everything but the oiling, and never knew a man to do it before this winter. I have had to cut and tie, have had strings break two, three, and four times a day from tightness of band, and now I have ginned out 23 bales without a single stoppage on this account. Another matter—get No. 1 leather, and make it with copper rivets; have the gin-stand level, and square with your wheel; fix the band so it cannot vibrate, if possible. Have a heavy, strong frame to gin-stand, every portion inside thoroughly sand-papered as smooth as glass; have fine teeth, ten to an inch, let them pass out parallel with grates; let the saw through the grates into the cotton box so as to measure one inch in the centre of the saw, and three-fourths of an inch above; put bristles thick along the wings, into small holes, so as the

line of bristles will be thin; let them be stiff, about one inch long, make 16 arms, and if no dead air created by speed, give the brush six or seven revolutions to the arc of the saw; give the saw about 200 revolutions in a minute, and I think a sixty saw gin, in clean cotton and that has lain in bulk well pressd, *having been thoroughly dried* before putting up, will gin 2½ bales of 400 lbs. each. As Mr. Abbey says, "the brush is one of the most important things about a gin-stand"—so say I, and I agree with him, give it all the motion that is safe, and that will give draft enough. By giving motion, each wing or brush will clean fewer teeth, and will blow it apart from the compression it received in passing into the tooth.

I would add another thing. The mote board should be constructed so as to allow it being dropped low, or raised; when the brush is going rapid, and the mote board too narrow, there is much cotton wasted with the motes. It seems to me, that, in giving a brush velocity, there should be drivers on each end of the saw cylinder, so as there need not be so much tension on the band, which causes too much pressure on the gudgeon; consequently friction, wear, and heating, if there were bands at each end, of course there would not need be so much tightness in the bands. M. W. PHILIPS.

Edward's Depôt, Miss., Oct. 25th, 1846.

APPLE AND PEAR TREES DESTROYED BY THE LOCUST.

THE Seventeen-year Locust (*Cicada septendecim*) has heretofore been considered by horticulturists as harmless, or nearly so; but from the fact of their burrowing into the earth the moment of their escape from the egg, and living for seventeen years amongst the roots of trees, and nowhere else, I was led to believe that the failure of fruit, particularly the pears and apples, was mainly owing to these countless swarms draining the sap from the roots, and thus rendering them unable to supply the branches with sufficient nourishment. I was confirmed in this opinion by an experiment made by J. B. W., of New York, and published in the Horticulturist, November number, page 227, to which I refer you. The method there prescribed, "to renovate an out cast," is to dig a trench four feet wide, and twenty inches deep, around the tree, leaving a ball of earth six feet in diameter, and then to fill the trench with rich earth and compost. The author states that the experiment succeeded, and that in three years the tree was in a flourishing condition and again yielding fine fruit. The writer attributes the change to the new and rich soil with which he supplied the tree, while I argue that in destroying the larvæ of the locust, which he did when he cut off so large a portion of roots, he removed the real disease, and the tree was then in a condition to take advantage of the congenial soil placed around it, and new life was given to the roots and branches.

Under this impression I superintended a similar experiment on a tree that had been declining for years without any apparent cause, as there were no insects on the tree, and the roots had been amply supplied with manure. Agreeably to my expectations I found the larvæ of the locust in countless numbers, clinging to the roots of the tree, with their suckers piercing the bark, and so deeply and firmly placed, that they remained hanging for half an hour after being removed from the earth. From a root a yard long and about an inch in diameter, I gathered twenty-three larvæ; they were on all the roots that grew deeper than six inches under the surface, and measured from a quarter of an inch to an inch in length. The roots were unhealthy, and bore the appearance of external injury arising from small punctures, and on removing the skin of the bark this appearance increased, leaving no doubt as to the cause of the disease. The larvæ were enclosed in compact cells of earth, with no outlet except that in immediate contact with the roots. As there were no galleries or holes leading from these cells, I infer that the grubs never leave the roots they first fasten on, which may account for their great difference in size, the small ones being starved specimens of the same brood.

Though this curious insect has always made its appearance at stated intervals over our broad land, few appear to be acquainted with its history and destructive habits, all believing that the only injury received from them, was while depositing their eggs on the branches of the trees; but if we trace them through their various changes to their subterranean home, we will find them a destructive and insidious foe, robbing us slowly but surely of our fairest and most valued fruit. This insect is not a true locust, but derives its popular name from its fancied resemblance to the locust of the East, which belongs to the family of grasshoppers (*Locusta*). The Cicada septendecim appears in June every seventeen years. When they emerge from the ground they are grub-like in form, destitute of wings, and covered with a tough shell, a proper and most convenient coat, that effectually protects them while in their earthly abode. The evening and early morning hours are best suited for them to undergo their change, and accordingly as soon as the sun disappears they may be seen creeping from the earth in countless numbers, crawling to the nearest tree or shrub, which they climb until they reach a convenient spot to grasp firmly. There they await the change, which begins by a slit opening in the back of the shell, and the fly gradually draws itself out, the body enlarges, the wings expand, and the creature assumes new life and energies, though it always continues heavy and rather sluggish. They live in the winged state three or four weeks before they deposit their eggs, subsisting on dew and moisture on the leaves of the trees. The female has a strong and curiously contrived piercer with which she carefully slits the bark of the twigs of trees and shrubs, and deposits her eggs in pairs, side by side, but separated by a portion of woody fibre, and placed obliquely so as to allow one end to point upwards; from ten to twenty eggs are deposited in this slit. She then removes to a little distance and makes a new nest, when a limb is sufficiently stocked, she removes to another, until her store of eggs is provided for, when she becomes exhausted, falls to the ground, and soon dies. One female will deposit four or five hundred eggs. The eggs require forty-two days to mature in the branches of the trees; they then burst the shell and appear a minute but active fac-simile of the parent in the larva state, requiring but a few moments to stretch

their limbs and prepare for labor, before they unloose their hold of the twig on which they had been deposited and fall to the ground, when they immediately disappear in search of food in the roots of the parent tree.

If the eggs that are about to be hatched, be placed over a glass jar filled with earth, the young grubs will in a few hours after their escape from the egg, be seen at the bottom of the jar, endeavoring to force their way still deeper. When first hatched they are very small and white, but soon change to a yellow brown. They exist in separate tribes, occupying a different section of country, making their appearance in different years, but invariably after the same interval of time. For a year or two before and after the appearance of the main body a few scattered individuals will generally be found. Their favorite trees appear to be the oaks and fruit trees in general, avoiding the fir, walnut, and hickory tribes, though they will occasionally deposit their eggs on them should no other tree be convenient at the proper moment. From the universal belief that the cicadæ were harmless, no means has yet been adopted to restrain their numbers, though no insect has more natural enemies; helpless and unresisting they fall an easy prey to all that attack them, and reptiles, birds and beasts alike seek them eagerly, and find them nourishing food. The larvæ will subsist on the roots of trees several years after the trees have been cut down, provided the roots remain alive, which is frequently the case. The roots of an apple tree will continue growing and throw up suckers six or seven years after the tree has been removed. On the return of the locusts, hogs and ducks will be found efficient aids, as they are untiring in their search after them. In the grub state, moles and ground mice are their chief enemies.

M. H. Morris.

Germantown, Pa., Feb. 2d, 1847.

THE BEST VARIETIES OF CORN FOR SHIPPING.

On page 208, in the fifth volume of the Agriculturist, in a condensed account of the properties of Indian corn, &c., purporting to have been taken from Dr. Jackson's Final Report on the Geology and Mineralogy of New Hampshire, will be found the following extract:—"The use of the oil in corn is obviously to prevent the rapid decomposition of the grain in the soil, and to retain a portion of food until needed by the young plant, and is always the last portion of the grain taken up. It serves to keep meal from souring readily, and it will be observed that a flint corn meal will keep sweet for years, even when put up in large quantities; but the Tuscarora meal will sour in a short time. The latter is the most digestible grain for horses, and is soft, but it is of little value for feeding swine. It is a good kind of grain for rapid cooking, for its meal is quickly boiled or baked."

It is further remarked on page 361 of the same volume that "the varieties of corn which will best bear transportation by sea, are those containing a large proportion of oil, such as the Golden Sioux, the King Philip, or Northern eight-rowed Yellow, the Dutton, the Browne, the Rhode Island White-Flint, &c.; but the flour made from those varieties is not so palatable to those unaccustomed to its use, as that made from the soft, farinaceous varieties of the South and West, which are improved by kiln-drying."

I also read a communication in the N. Y. Journal of Commerce some months ago, which has since been extensively copied into other papers, stating that, as Indian corn meal contains so much fat, it is liable to become rancid if kept too long, and is then more or less unfit for use, and that white meal will keep rather better, and from its being lighter and milder it is much preferred for use in warm climates, &c.

As the last statement is at variance with those made by Dr. Jackson and yourself, I am at a loss to know what variety of corn to plant the coming season that will yield the most profitable return. By informing me what variety is most sought fo by shippers you will oblige A Young Farmer.

—

On inquiry among merchants we find that at one time, yellow corn will be in demand, at another the white, and then both varieties mixed; but generally the latter is objected to.

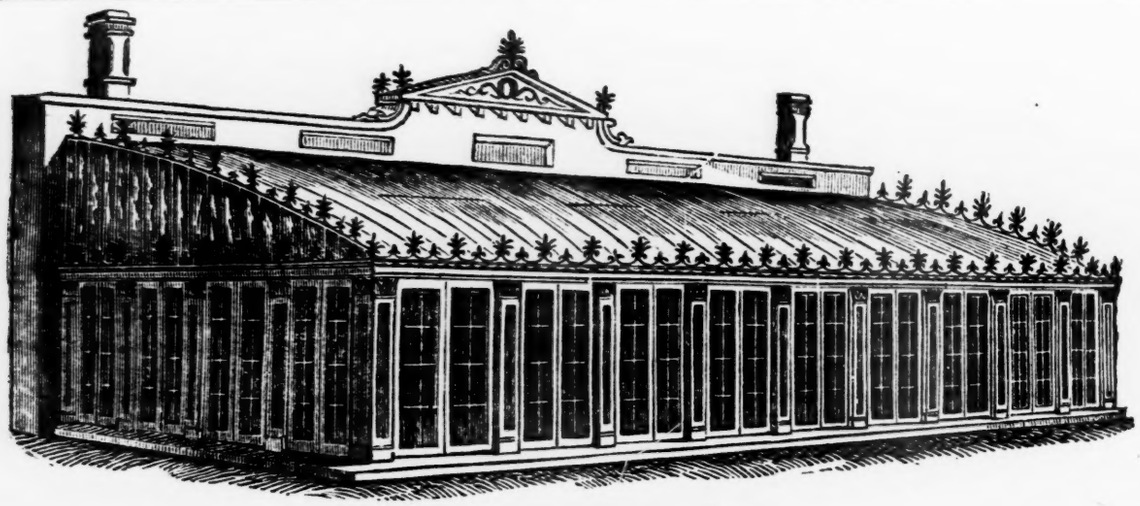
For the purpose of shipment, we would recommend the culture of the most productive flint varieties, either yellow or white, north of Maryland; but in other parts of the United States, we think the large gourd-seed and other productive kinds will prove the most profitable, notwithstanding the necessary expense of kiln-drying.

AMERICAN AGRICULTURAL ASSOCIATION.

The Annual Meeting of this Society for the election of officers for the ensuing year, was held at the Historical Society's Rooms, on the 1st of February, and the following gentlemen were elected:

For President, Hon. Luther Bradish; *for Vice Presidents*, Hon. Theodore Frelinghuysen, James Lenox, James Boorman, A. H. Stevens, M.D., T. A. Emmet, H. Maxwell, S. Whitney, S. Knapp, Vice Chancellor McCoun, Cyrus Mason, D.D., W. A. Seeley, J. S. Livingston; *for Treasurer*, A. P. Halsey; *for Recording Secretary*, R. Ogden Doremus; *for Corresponding Secretary*, A. H. Green; *for Executive Committee*, R. L. Pell, J. W. Draper. M.D., Archibald Russell, Edward Clark, D. P. Gardner, M.D., R. K. Delafield, Shepard Knapp.

Caution in applying Coal Tar to Peach Trees.—Dr. Alexander H. Stevens stated that the application of coal tar to peach trees, as laid down by late authority, in the state in which it comes from the gas-house, for the purpose of destroying the borer, he had been credibly informed, invariably killed them; but if used after undergoing the process of distillation, he had found from experience that it was an effectual remedy without injury to the trees. Dr. D. P. Gardner remarked that the article referred to by Dr. Stevens was obtained from the coal tar of the gas-house in Canal street, and had been submitted to distillation by Messrs. Blackwell, at Astoria, for the purpose of extracting the fœtid naptha it contained. Naptha, he said, is a very penetrating substance, and doubtless is destructive whenever applied to plants and trees in any considerable quantity. If, therefore, the coal tar employed by Dr. Stevens proved effectual without injury to the trees, it probably arose from the sepa ration of the naptha.



FULL VIEW OF A HOT-HOUSE.—FIG. 16.

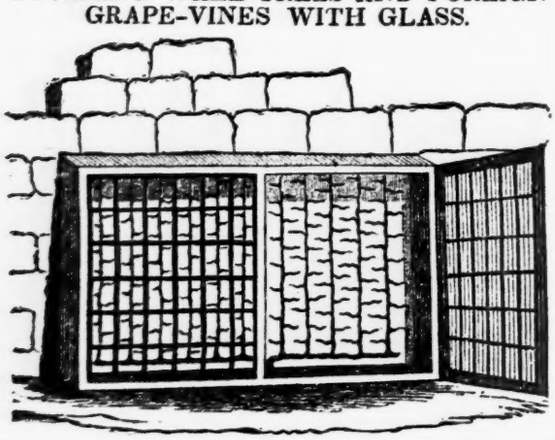
CONSTRUCTION OF HOT-HOUSES.—No. 1.

As the construction of hot-houses and the modes of heating and ventilating them have had, and still hold, a large share of interest both in Europe and in this country, and have been attended with the best results in forcing grapes, figs, and other choice fruits, as well as in the production of rare exotics and early vegetables, we have the more confidence in bringing this subject before our readers.

The most usual and economical form for constructing a hot-house, or conservatory, is with a lean-to roof, facing the south, glazed in a similar manner as denoted in the above representation, designed by Mr. J. Thomson, Landscape Gardener, Garden Architect, Nurseryman, &c., of Hammersmith, England. Another form, called the *ridge and furrow house*, although more costly in its construction, is preferable on account of obtaining a more equal diffusion of the sun's influence than any other description of building. When fronting the south, that is, with the ridges north and south, inclining upward from the front to the back, at the same angle of a lean-to roof, the angles from the ridge to the valley of this class of house will then be east and west; thus presenting a surface to the direct rays of the morning and evening sun, while those at mid-day will strike the angle obliquely and produce a more equal temperature, the benefits of which are obvious from the longer duration and more equal distribution of the influence of the sun.

For the purpose of forcing vines, nectarines, &c., the ridge and furrow system has a decided advantage over every other mode of construction. Suppose a house to be planted with black Hamburgh grapes, it is seldom desirable to have the fruit all ripe at a time; on the contrary, it is better to have it in perfection as long as possible. Now with one vine under the ridge and another under the furrow rafter, throughout the house, this object will be attained, as the heat will always be greatest in the angles under the ridge, and least under the furrow rafter; consequently, the grapes under the ridge will be considerably earlier than those under the furrow; besides, a better distribution of the sun's rays will be secured for each vine than under a plain surface. A similar advantage will be gained if the house be planted with various sorts, by keeping those requiring most heat, such as Muscats, Frotignans, &c., under the ridge, and Hamburghs, Sweetwaters, &c., under the furrows.

COVERING WALL-TREES AND FOREIGN GRAPE-VINES WITH GLASS.



GRAPE-VINE TRAINED WITHIN A FRAME.—FIG. 17.

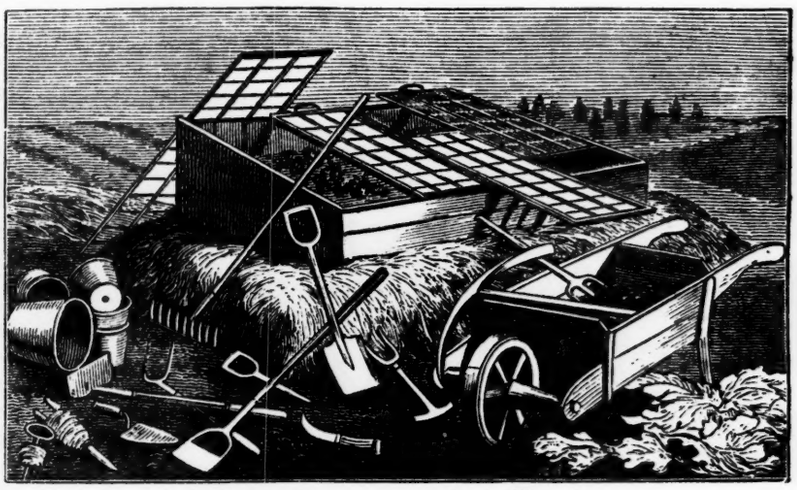
THOSE who desire early plums, nectarines, foreign grapes, &c., can obtain them at a comparatively small expense, by inclosing the trees or vines upon a wall within a frame in the manner illustrated by the adjoining wood engraving.

The doors, or windows, forming the frontage, may be hung with hinges, and opened or shut at pleasure, for the purposes of watering, ventilation, pruning, gathering the fruit, &c. The glass in front, when closed, would not only protect the trees from cold, but would assist in bringing the fruit to maturity and guard it in a great measure from the atacks of flies, wasps, and most other insects, liable to prey upon the trees. The cost of a frame of this description, 7 feet by 12, in front, need not exceed fifteen or twenty dollars.

HORTICULTURE.—God first planted a garden; and indeed it is the purest of human pleasures; it is the greatest refreshment to the spirits of many, without which buildings and palaces are but gross handy works.—*Lord Bacon.*

PROFITS OF A GARDEN.

The profits of a garden near a large city, of the extent of 10 or 15 acres, are as great as that of a farm of ten times the extent cultivated in the best manner, without the help of purchased manure. But if manure can be obtained at a reasonable rate, as is often the case in great thoroughfares, where many horses are kept for public conveyances, although there be no immediate demand for vegetables, a garden may be very profitably cultivated, entirely for the purpose of raising seeds. The demand for seeds of all the most common productions of a garden, and especially of flowers, is very great; and the profit of those who retail them in small quantities is so great that they can afford a liberal price to those who raise them with proper care, so as to keep the varieties distinct.



Garden Implements, &c.—Fig. 18.

Many plans have been proposed for the distribution of the crops in a garden; but none of them are suited to every situation. Much depends on the nature of the soil, which may be better suited to one kind of produce than another, and also to the demand for any peculiar class of vegetables. New sorts may often be introduced with advantage. The raising of any useful plant with great care will often give a man a reputation, which makes it advantageous to him to confine himself to these principally, and raise them in the greatest perfection. An ingenious man will find out what is most for his own advantage; and, from the list of plants which may be cultivated for ornament or for use, a selection may be made which may be well suited to the situation of the ground and the circumstances of the grower. The practice of the market gardeners may be examined with advantage; and long experience, with the test of profit, will lay down better practical rules than the most plausible theories.

The great productiveness of a garden is a lesson in favor of deep spade tillage. Those parts devoted to annuals should have a southern exposure; but trees and perennials often require a sheltered or northern aspect. Plants which flower should be planted far apart. The soil must be well drained. Walls and trellises in gardens are of the first importance to shelter vegetables and allow choice trees to be trained.

The implements necessary for garden tillage are displayed in the above figure; the plow may be used to assist in trenching, and improved drills for sowing; but the spade, rake, and hoe are the principal tools; indeed, labor is the great essential in the garden.—*Gardner's Farmer's Dictionary.*

Quantities of Seed suited for a Cottage Garden.—Allowing for loss or accident in garden seeds, we believe the following quantities for sowing a common cottage garden to be nearly correct:—

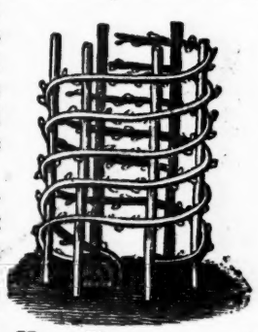
1 pint of peas will sow	14 yards of drill.
1 pint of beans will sow	22 yards of drill.
1 ounce of onion-seed will sow	10 square yards.
½ ounce of leek-seed will sow	6 square yards.
1 ounce of carrot-seed will sow	10 square yards.
1 oz. of parsnip-seed will sow	12 square yards.
½ ounce of cabbage-seed,	3 or 4 square yards.

TRAINING TREES.

As queries are often made in regard to the terms made use of by gardeners and others, in training grape-vines, fruit-trees, &c., such as *Hoop-training*, *Wall-training*, *Fan-training*, *Training en quenouille*, and *en pyramide*, we insert, as we are permitted to do, the following article from the "Farmer's Dictionary," a favorable notice of which will be found on page 130 of our fifth volume.

The training of trees consists of their management, by pruning the stem and branches, so as to secure an increase of fruit of a superior quality. Training against walls has also the advantage of enabling the orchardist to cultivate southern fruits, and ripen them more perfectly. The chilling effects of winds and excessive evaporation are averted, while the increased temperature to which the fruit is exposed renders it sweeter.

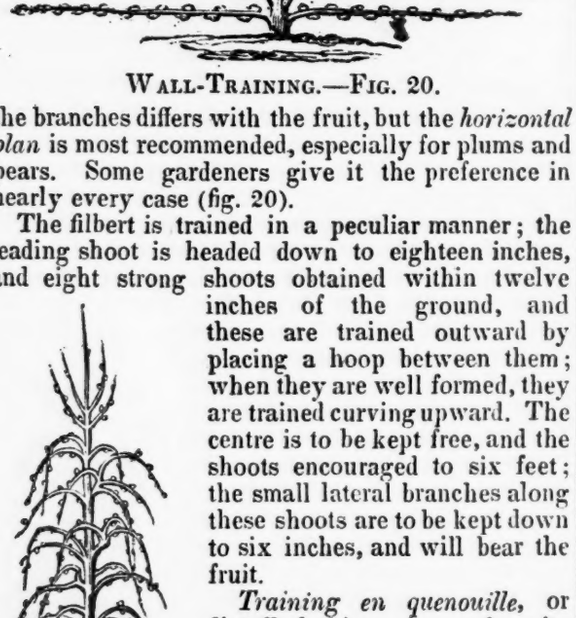
There are three general plans of training; on espaliers, walls, or as dwarf standards. The *espalier* is usually a trellis, consisting of posts ten feet high, set eight or twelve feet apart, and sustaining horizontal laths or wires; the trees are therefore trained horizontally. This is usually intended for grapes, apples, or pears. But the posts are sometimes set in circles, around which three or more branches are trained. This is called spiral or hoop-training (see fig. 19).



Hoop-Training.—19.

Funnel-training is a modification; the posts are set in an inclined direction, so as to meet at their summits, and produce the outline of a cone. Wire is wound around it at intervals of a foot. Light iron bars, or trellises of wire, are sometimes used instead of the wooden posts.

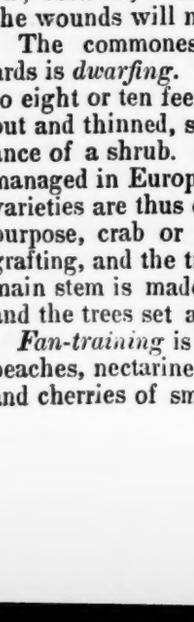
The most choice varieties of fruit, which require additional heat, are placed on walls, as apricots, nectarines, peaches, plums, grapes, figs, and some cherries and pears. The method of arranging



WALL-TRAINING.—FIG. 20.

the branches differs with the fruit, but the *horizontal plan* is most recommended, especially for plums and pears. Some gardeners give it the preference in nearly every case (fig. 20).

The filbert is trained in a peculiar manner; the leading shoot is headed down to eighteen inches, and eight strong shoots obtained within twelve inches of the ground, and these are trained outward by placing a hoop between them; when they are well formed, they are trained curving upward. The centre is to be kept free, and the shoots encouraged to six feet; the small lateral branches along these shoots are to be kept down to six inches, and will bear the fruit.



TRAINING EN QUENOUILLE.—FIG. 21.

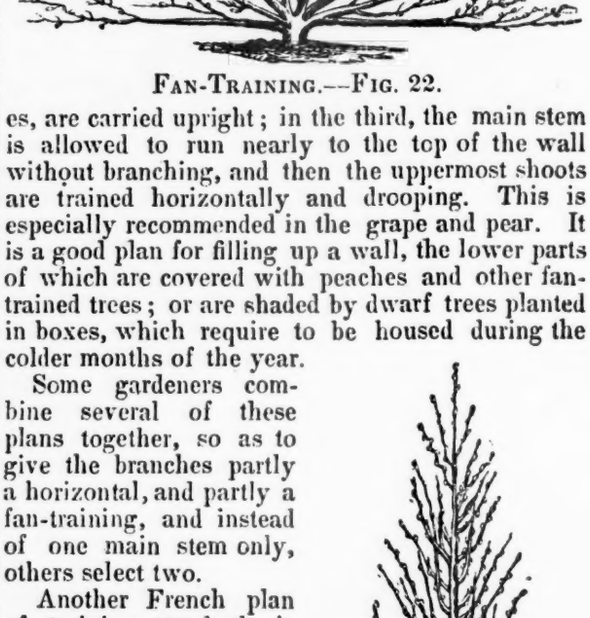
Training en quenouille, or distaff fashion, is a favorite method in France and Brussels for apples and pears (fig. 21). The branches are tied down to stakes driven near the root, or to the stem, until the wood is firm. The height of these trees is usually eight feet, but in France they are sometimes allowed to grow to twenty feet.

In the operation of pruning, the shoots are cut off close to the buds, or at a distance from them not greater than the diameter of the branch to be cut off; because, without the near proximity of a bud, the wounds will not heal over.

The commonest mode of training for standards is *dwarfing*. The leading shoot is kept down to eight or ten feet, and the lower branches trained out and thinned, so as to give the tree the appearance of a shrub. In this way apple orchards are managed in Europe, and it is wonderful how many varieties are thus cultivated on an acre. For this purpose, crab or paradise stocks are chosen for grafting, and the trees of small growth taken. The main stem is made to branch at eighteen inches, and the trees set at eight to twelve feet apart.

Fan-training is the most common, especially for peaches, nectarines, apricots, almonds, figs, plums, and cherries of small growth (fig. 22).

Besides these most common methods, *pendant*, *vertical*, and *high training* are practised. In the first, the branches are curved downward; in the second, several shoots, selected from two horizontal branch-

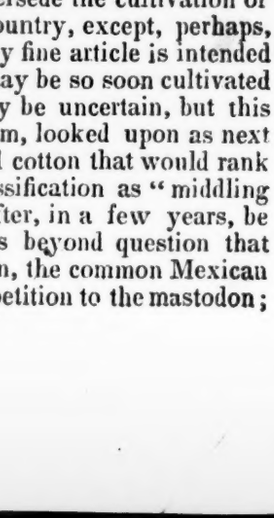


FAN-TRAINING.—FIG. 22.

es, are carried upright; in the third, the main stem is allowed to run nearly to the top of the wall without branching, and then the uppermost shoots are trained horizontally and drooping. This is especially recommended in the grape and pear. It is a good plan for filling up a wall, the lower parts of which are covered with peaches and other fan-trained trees; or are shaded by dwarf trees planted in boxes, which require to be housed during the colder months of the year.

Some gardeners combine several of these plans together, so as to give the branches partly a horizontal, and partly a fan-training, and instead of one main stem only, others select two.

Another French plan of training standards is in a pyramidal form (*en pyramide*, fig. 23); this, with the preceding, is the common method of managing apples and pears. The tree is either cut down to a dwarf of eight or ten feet, or allowed to run up to twenty or more.



TRAINING EN PYRAMIDE.—FIG. 23.

MASTODON COTTON.—No. 2.

THE *effect Mastodon Cotton is going to have upon cotton growing*, is difficult to anticipate; but there are some things in regard to it which may, without much hazard, be clearly expected. It is the decided opinion of many well-informed persons, that it will in a few years entirely supersede the cultivation of all other cotton in this country, except, perhaps, the Sea Island, where a very fine article is intended to be made. Whether it may be so soon cultivated so extensively as this, may be uncertain, but this much may be, it would seem, looked upon as next to certain. All saw-ginned cotton that would rank as high in mercantile classification as "middling fair," or "fair," will hereafter, in a few years, be of the mastodon. For it is beyond question that for the finer grades of cotton, the common Mexican can offer no successful competition to the mastodon;

the latter being at least quite as productive as the former, and in all other respects about as easily prepared for market. If the common cotton then be continued at all, it will be only for the production of a cheap article. For this purpose a greater quantity to the acre, or to the force in the field, can be produced than now is, for the object will be *quantity* with but little reference to its quality. But for an article as high or above midway, in the scale of classification, the mastodon will undoubtedly be resorted to. We shall then have a *wider range of classification* in cotton. We shall have more low-priced cotton, and considerable that is lower in price than what is called "Ordinary" or "Inferior," and we shall also have a much larger quantity of what is called "Good" and "Fine," and larger quantities also that will class two or three grades higher than that. This is regarded as an important point, and it may be expected greatly to increase the consumption of cotton in this section. If considerable quantities of fine cotton, such as would rank several grades above "Good" and "Fine," were offered to manufacturers, it would not only enter largely into the fabrication of new articles, but to mix with sheep's wool, flax and silk, would find a heavy consumption. While at the same time the facilities that will be given to the products of very cheap cotton, will increase the consumption. Osnaburgs, coarse clothing, sack cloth, sail cloth, and the like, will become cheaper, and consequently more abundant.

It seems then, to be conclusive that the introduction of the mastodon cotton into the United States is going considerably to increase the consumption of cotton. The planter can do what has never been done before. He can supply a large market with any quantity of fine cotton, ranging and filling up the entire vacuum between "Good" and "Fine," and the higher grades of Sea-Island; and at the same time he can supply an equally large, perhaps larger demand, for *cheaper* cotton than we now have.

If it should be also found advantageous to make *cheap* cotton of mastodon, instead of the common Mexican, which is the opinion of many, the same result will follow. On thin, dry, and sandy soil, and especially of dry seasons, the product of mastodon is supposed to be the greatest, in which case, the lowest grades of cotton will be produced cheaper than of any other kind, or at least as cheap. So that it will make no difference so far as the present argument goes, whether low priced cotton is produced from mastodon or any other kind.

The first and most obvious result following the cultivation of mastodon cotton is, the production of a large quantity of cotton of a much finer and better quality than what the trade calls "Good" and "Fine," of common Mexican; and this will only cost the same labor that that does now. But if the whole crop were mastodon, it could not all be of this quality, because of the labor required to handle it thus carefully; and if another portion of the crop, or different crops, the same labor be appropriated that usually is with "Ordinary" cotton, if of mastodon it would class as "Middling Fair," perhaps; and so on downwards, until if you make "Ordinary," or "Inferior" cotton of mastodon it would be handled in the most hurried manner desirable, and be picked in the last of winter after being exposed to weather in the field for months.

It is through these that the trade may expect a *wider range* in cotton than heretofore. We will have considerable quantities of a far superior article to any heretofore in the markets, except a very few thousand bales of Sea-Island of the higher grades, and also a large quantity of what will *class*, so far as the appearance and handling is concerned, at and below "Inferior," but which from strength and length of staple alone, will be as valuable for cheaper goods, as "Middling," and which will be produced with the same labor of "Inferior" or common Mexican, and will probably, after a while be afforded at the same price—both of which circumstances must tend to *extend* the manufacture and consumption of cotton.

There is another that may well deserve attention. There is a disposition to consume cotton largely in making beds, pillows, &c. It is supposed that the lower grades of mastodon cotton will enter largely into these articles, its *heavy body*, great firmness and elasticity, rendering it much superior to the other cotton for these uses.

As to Sea-Island cotton, it appears to be conclusive that it cannot be cultivated in competition with mastodon, except such qualities as range above the best class of the latter. R. ABBEY.

Yazoo, Miss., Dec. 3d, 1846.

STOCK FOR A POULTRY-YARD.

I HAVE been two years gathering stock for a poultry-yard. It is my present purpose to keep on hand for public market a supply of the best varieties of hens, ducks, geese, turkeys, doves, and everything else attainable that will add to a good poultry-yard.

At present my stock is somewhat limited, but I hope by next fall to have a full yard. At present, however, I can supply a few orders with the best variety of the snow-white, crested, black Poland hen, and the Malay hen; and next fall the Dorking hen, the golden top-knot hen, the leopard hen (all from imported stock), and the white Bantam hen. Also, Muscovy ducks (very fine), and a splendid variety of Poland ducks, very large and beautiful, with large black top-knots. The latter, which are from imported stock, are said to be great layers, and like the Muscovy ducks are peculiarly domestic and harmless; and for feathers as well as for the table, are of the finest quality. Also, white top-knot ducks, fine white turkeys, and beautiful double fan-tailed doves, all splendid varieties.

Buffalo, Dec. 26th, 1846. N. S. SMITH.

TO FIX AMMONIACAL GASES IN VAULTS.—The most effectual substances that can be employed for the purpose of attracting ammoniacal gases, are green vitriol or common copperas (sulphate of iron), and sulphuric acid. A pound of either of these substances, diluted in a gallon of water and thrown into a vault, will immediately render it inodorous.

THATCH, on the roofs of houses, may be rendered incombustible by a common flame, by coating it over with a mixture of white-wash and alum. 1 lb. of alum will suffice for 5 gallons of white-wash.

Mr. Norton's Letters.—No. 3.

In my former letter, giving some notes of a journey by railway from London to Dover, I had got as far as Reigate, and had mentioned the green sand formation, which appears in that neighborhood. It is here of no great width, and soon crossing it, we entered upon the the weald of Kent. The wealden is a part of the oolitic system, and is thus described by Prof. Johnston in his Lectures, to which I would refer all who wish for a more extended account of these formations. He says," The upper part consists of a fresh-water deposit of brown, blue, or fawn-colored clay, often marly, and almost always close and impervious to water. Beneath this, are the iron or ochrey Hastings sands, which again rest upon the Purbeck beds of alternate fresh-water limestones and marls." This formation is in all, about 900 feet in thickness, and forms the central portion of both Sussex and Kent. The weald clays are exceedingly difficult of cultivation, being almost impervious to water, and baking like bricks. Much of the land is rushy and wet, and a great breadth in poor, cold pasture. The drain is exceedingly needed in this district, its judicious application followed by the exercise of good judgment in working, would, I have no doubt, alter greatly for the better even the stiffest of these clays. Where the marls and the Purbeck limestones come to the surface, and mix to a considerable extent with the clay, a much better and more easily worked soil results. Owing to the difficulties experienced in dealing with these excessively stiff clays, a great portion of the weald remains in the state of forest. Much valuable timber is produced here, and it is floated down the Medway in large quantities.

This is a great hop growing region. The hop fields were to be seen in very great numbers, and almost every farm had a large kiln for drying them attached to its other buildings. At this season of the year, the vines were of course withered and dead; the poles were formed into a species of stack leaning towards a common centre. The hop vines in almost every instance had been carefully collected and carried away, probably to the manure yard. In some of the hop fields I noticed that potatoes, beans, or cabbages were planted between the rows of hops. I should think that their growth could be but little, until the time came for the gathering of the hops and the removal of the vines.

Although, as I have mentioned, there are some imperfections in its cultivation, that part of the weald through which the railway passes is exceedingly beautiful, and we frequently regretted the diving into a tunnel, or deep cutting, just at the moment when some fine prospect was opening before us. The surface is undulating, and ridges of hills run across the country in various directions, their sides studded with little villages, each having its grey old church, with a square ivy-covered tower, and the superb seats of noblemen and gentlemen with which this region abounds. Though upon close examination defects are seen in the culture, yet a general view presented a picture of richness and luxuriance, realizing some of our brightest conceptions of the fruitfulness and plenty of "Merrie England." The remarkable attractions of this region have often been noticed before by travellers. The wealden formation appears at the surface in this place alone over the whole extent of the British islands.

At Ashford we came again upon the green sand, which exhibited as usual a country of great fertility. It must not be supposed, however, that all the soils of this formation are invariably fertile. On reference to Prof. Johnston's Lectures, I find that between the upper and lower beds of green sand intervenes what is called the gault, about 150 feet in thickness, of an impervious, compact, blue clay. This forms in the counties of Cambridge and Huntingdon, "a thin, cold, clay soil, which when wet becomes as sticky as glue, is most expensive to cultivate as arable land, and naturally produces a poor, coarse pasture." It is necessary, therefore, not only to know the exact geological formation of a district, but to know also what strata of the formation are present. The green sand formation is celebrated for its fertility, and a person knowing this and being told that the soils of Huntingdon and Cambridge were upon that same formation, would very naturally suppose that those soils must be excellent, and on learning their true nature might be disposed to consider geology as after all quite useless for the purpose of guiding the practical man. This conclusion would be as hasty as the other, and they both show the danger of applying *general rules* without discrimination in particular cases.

Before reaching Folkestone, we once more found ourselves upon the chalk, which here shows itself in great thickness. Some of the cliffs expose nearly its whole extent, of 600 feet. One or two of them are between 500 and 600 feet almost perpendicular. The upper chalk soils naturally produce a short but excellent grass, peculiarly suited to sheep. We saw very great numbers of the South Downs, which seem the favorites in this section.

The railway from Folkestone to Dover, a distance of about five miles, is a remarkable monument of English enterprise and engineering skill. In this short distance there are no less than four tunnels, two of which are of great length. The Abbot's Cliff tunnel is 1,895 yards in length, and perforates the cliff at a depth of nearly 400 feet from its surface. This is connected with another tunnel 1,331 yards in length, by a sea wall 1,500 yards long, from 25 to 30 feet thick at its base, and from 50 to 70 feet high!

Dover itself is a most singular old place, just at the foot of a very high chalk-cliff, which seems almost to threaten and overhang some of the houses. As I sailed for Ostend on the night of my arrival, I was unable to see much of the place or its neighborhood. This I may perhaps accomplish at some future time. JOHN P. NORTON.

Utrecht, Dec. 11th, 1846.

ECONOMY IN FOOD.—Meat used cold is less nourishing, and does not go so far as when eaten warm; broths, stews, and hashes of meat, mixed up with vegetables, and flavored with parsley, chives, and onions, salt and pepper, are better and cheaper, and more nourishing and agreeable for the working man than plain meat.

THE CORN OR FLY-WEEVIL.—No. 2.

THE only sure ground, for defence and protection against the ravages of this weevil is, to take advantage of certain conditions of the crops it is liable to injure. Thus, the threshing and cleaning of wheat early in July, is almost a perfect safeguard; but if left unthreshed till winter or even till September, our crops would be nearly ruined. Yet, while this and other remedies have been long practised, the reasons have neither been known nor sought for, and of course have been but partial or accidental in their effects. If a few early ears of corn, that have been attacked by this insect, when gathered, are put away in a dwelling-house, or even in a close box, and remain through the next summer, every grain will usually be found perforated, and as many dead moths lying about, if there is no outlet for their escape. Or if a bunch of heads of wheat be taken from the field in harvest, and hung up in the house, and so remain until October, there will be found nearly as great destruction in the grains.

The most effective restrainer and destroyer of the fly-weevil is cold winter weather. Hence it is not known as a serious evil even in Delaware. In some parts of Maryland it has been absent for so long a time that it is almost forgotten; and then to reappear and become for a time very numerous and destructive. Their long absence and utter extinction was doubtless caused by a succession of severe winters, and their subsequent return to milder ones, which permitted the living of some of the larvæ of new immigrants coming every summer from the south. In lower Virginia, the weevil is almost always sufficiently plentiful to be very injurious, if not timely guarded against. But even here, the race is sometimes so nearly extinguished, that scarcely a moth is seen for the next year. In 1832, there was no damage observed near my residence in Prince George County, even when the wheat was threshed so late that the grain would have been nearly worthless in other years. The previous winters had been unusually cold, and the preceding (1830–31) was more severe than any for forty years. Hence, there is little to be feared from the ravages of the fly-weevil, in Pennsylvania, and still less in Massachusetts. In both cases mentioned in Dr. Harris' letter, the infested corn was kept in dwelling-houses where artificial warmth served to protect the lives of the few larvæ remaining in the grain during the winter, which permitted them to multiply through the next summer; for, if there were any weevils living in the spring, they could live and propagate nearly as well during the summer in Massachusetts as in Virginia. Flying moths may be wafted, in summer, by violent winds, hundreds of miles northward of their native and more congenial localities, and even may deposit their eggs in regions too far north for their progeny to live, except in a few cases where they are protected from the cold of winter. The effectual protection from weevils, furnished by cold, is not at the farmer's command; but he can often take advantage of other means that will prevent any considerable loss, and these may briefly be stated as follows:—

1. Corn may be kept for years *nearly* exempt from the attacks of the weevil by being housed in the shuck or husk. I have known it to be thus kept through the third year, and much more free from injury than shucked corn is in August, and even the July succeeding the gathering. But this mode requires much more house-room and much additional labor, if adopted for the whole crop, or for that portion designed for sale; still, all required for bread at home, after the beginning of summer, may be well and ought to be kept in the shuck. The reason of exemption from the weevil is obvious. The few larvæ which may be in the corn, when housed in autumn, perish, because they are not able to escape from the compact bulk; and the same compactness prevents the access of laying moths approaching from other places. The grains exposed by the opening of the shuck, and those only of ears at the outside of the bulk, are all that can be reached or suffer from the weevils at all.

2. If, instead of keeping the corn in the ear, and shucked, as usual, until wanted for food or market, it were shelled in May, or before the coming out of the first summer broods of weevils, and kept in bins, or in bulk, there would be very little damage from all the succeeding generations. The first few moths would perish by confinement, except those produced in grains then on the surface of the bulk; and none others could deposit otherwise than on the surface of the grains. It is obvious that every change of the surface exposes to such injury a new layer of grain before untouched; and if left undisturbed, the surface grains will serve to shield all below them. When the corn is about to be sold, the weevil-eaten surface of the bulk may mostly be separated by strong fanning, or a previous raking off of all the surface corn, which may be reserved for stock-feeding.

3. Wheat, as soon as reaped, and perhaps sooner, is supplied from the granaries with a greater or less number of parent weevils to lay the earliest brood; and if it remains in the straw until September, and when threshed, is left in small bulk, or often stirred, nearly all the grains may be weevil-eaten; but if wheat be threshed and well-fanned early in July, in this region, there will be no weevils worthy of notice. The eggs previously layed, probably do not exist on the grains, but on the chaff or shuck, in which they are inclosed, and in hatching, the maggots must perish for want of food. As in the case with corn, the bulk of clean wheat is not exposed to subsequent layings except on the grains at the surface of the bulk. Even if the eggs had previously been attached to, and had remained with, the grains, instead of the chaff, as I infer to be the case, and then hatched in the interior of the bulk, the weevils could not escape from such close confinement, but would die without increase.

Seed wheat is usually kept spread out at least ten inches thick, in order to avoid any possible heating from remaining moisture, and by some farmers is frequently stirred, both of which conditions offer a greater opportunity for the depredations of these insects. Notwithstanding this, it is rare that they become numerous.

4. The bulking of early-threshed wheat, without separating the chaff, is also said to be sufficient protection from the weevil. Of this mode I have no

experience. Its efficacy must depend, not on the removal of the eggs, but on the stifling of the maggots, and the inability of either the maggots or moths to move in so close a mass.

EDMUND RUFFIN.

Marlbourne, Va., Nov., 1846.

LETTERS FROM THE SOUTH.—No. 4.

LOUISIANA is in many respects the most peculiar country on the globe. Its southern border rests upon the Gulf of Mexico, a vast inland sea, in latitude below 29° north. Its northern boundary reaches to 33°; its eastern is the Pearl River, which separates it from Alabama, to latitude 31°, when the great Mississippi becomes the dividing line from the State that receives its name; while its western extremity is limited by the Sabine. The whole southern portion of this State, over 300 miles in length, by an average width of nearly 75, is exclusively an alluvial deposit. If to this be added similar deposits on the great river and its tributaries above, it presents a delta of comparatively recent formation, far surpassing any other within the same compass, in any quarter of the world.(*a*) Even those of the Nile, the Euphrates, and every other large river except the Ganges, are inconsiderable formations, in comparison with this magnificent encroachment on the ocean bed. And still the struggle is onward and irresistible. The vast body of water which debouches into the Gulf from several mouths, has its rise more than 5,000 miles above, by the course of the stream; and from its remotest source, and by every one of its innumerable branches, it is bringing down the ancient elevations, and spreading them over the tidal waters, the future and fruitful abode of civilized man.

Opposite the city of New Orleans, the trunk of the river has a breadth of 2,500 feet, with an average depth of 100, through which the water passes with a mean velocity of 2 feet per second. During a flood, this velocity is greatly augmented, and the water contains about 1-1000th part by weight and 1-2000th part by bulk of purely earthy matter, yielding a daily deposite of nearly 1,400,000 tons! The effect of this immense floating alluvion is seen in the gradual deposites and elevation of the low lands bordering the principal stream, and its numerous bayous and collateral branches, the accretions on the levée opposite the centre of the city (which have extended the bank several hundred feet within a few years), and the constant and rapid extension of the land at the mouth. The late Judge Martin states that "the old Balize, a post erected by the French in 1724, at the mouth of the river, is now (1827) two miles above it."

Everywhere on the banks of the passing stream, the land is highest; as the water, charged with floating matter, overflows its brim, and becomes comparatively stagnant, allowing a large portion of the solid material to subside; while the partially purified water passes onward through other channels to the Gulf. The result of this is to give a higher, cultivatable surface for some distance from the banks, while that portion of the land remote from them subsides into irreclaimable swamps, and frequently navigable lakes and lagoons. The natural elevation of the banks is not yet sufficient to prevent the overflow from floods, and this object is secured by artificial levées, or embankments, on both sides, which extend in a continuous line for hundreds of miles on the main stream and its collateral channels. The slow accumulation and consequent elevation of the surrounding country from deposits, which would otherwise have been going forward, is thus arrested; and the present low, swampy surface must for ever continue unreclaimed, till embankments on the lower sides and the artificial removal of the waters, bring portions of it into a condition for future cultivation. Could the hand of civilization and modern improvement have been arrested for a few centuries longer, till nature had finished what she has so auspiciously commenced, large additions, and in a state far more fitted to reward their efforts, would have been subjected to their control.

The delta of the Mississippi is similar in its character, though on an immeasurably larger scale, to that formed around and below the junction of the Alabama and Tombigbee Rivers, and extending into Mobile Bay. Here, it is apparent that the waters of the bay once extended high up the stream, and embraced what is now the low, level banks on either side. The same is true of the mouths of the Pearl, Pascagoula, and other smaller streams, which lie between those larger rivers; and we are thus inevitably forced to the conclusion, that the inner channels which lie within the islands that stretch from Mobile to Lake Borgne, inclusive of this, and Lakes Pontchartrain, Maurepas, and the innumerable other smaller lakes and bayous which intersect the whole delta of the Mississippi, have been rescued from the tide waters within a (*geologically*) recent period. And there is scarcely a doubt that this former arm of the Gulf once extended up to Yazoo, the Red River, and some other of the smaller rivers, all of whose banks are intersected by numerous channels, through which the waters flow into the adjoining streams, as either has the ascendency from recent floods on its upper branches. These interlocking with each other in every direction, and all at last terminating in the Gulf, separate the entire delta into a perfect net-work of islands. The land seldom rises beyond a few feet above low water mark, and from the banks gradually subsides into the swamps, lagoons, and lakes in the rear. The latter are sometimes deep, but are usually shallow, with the slightest declination from a level as they recede from the shore; while the shorter and more direct channels, through which the water flows to the Gulf with fearful rapidity in times of floods, are generally narrow and of immense depth, frequently exceeding 100 feet. The coast is usually a low receding line, so obscurely defined as to leave it questionable, for miles, where the water ends and the land begins.

The condition of the surface clearly indicates that *drainage* is the first and paramount object in the cultivation of the alluvial land of Louisiana. This has accordingly been practised to an extent far beyond anything exhibited in the United States. Large ditches running from the banks of the river and bayous to the swamps in the rear, intersected by numerous cross-excavations of a less depth, effectually drain off the surface-water before culti-

vation is commenced. But even these imperfectly effect the object designed, for wherever the porosity of the soil admits the passage of the water, its elevated head frequently raised high above the level of the earth, presses through all its interstices and brings to the surface an excess of moisture which is fatal to the highest success of the crop. This is the more to be deprecated, as the floods are most frequent from May to July, when the crops are on the ground, the necessary consequence of the long time required by the freshets in the remote tributaries in reaching their ultimate outlets.

It would seem, from a superficial glance at the subject, that underdraining by tiles, laid as deep as drainage can be effected, communicating with the main surface drains, would be the most effectual method of removing the surplus water. These being laid below the reach of the plow, and thus neither occupying the surface nor impeding cultivation, could be placed sufficiently near to accomplish the purpose effectually. If to this improvement could be added dykes or levées on the lower sides, pierced at proper intervals by outlets for the passage of the water when it would thus admit of its escape; or when from its rise on the lower side, which sometimes occurs, this is impracticable, then by closing the outlets and resorting to the use of a steam-engine, it can be artificially removed. The object seems attainable in no other way.

This improvement would justify the use of the subsoil plow in all soils, and with great advantage to the crop. Even without thorough draining, it has been found of great benefit wherever the subsoil is porous and admits an escape of the surplus water; but in particular formations, where an adhesive clay prevents its ready drainage, and it thus accumulates in the loosened earth below, a positive injury has been found, here as elsewhere, to follow its use. Although this plow has been but recently introduced here, many planters have given it a practical trial, and the general result, so far as coming within my notice, has been decidedly favorable to its general introduction and use.

There is a manifest and increasing attention to the subject of introducing new and improved agricultural implements, among the most intelligent planters in this section, and such seem disposed to give them a fair trial. The want of personal skill and attention on the part of many proprietors, however, renders this trial and their unquestionable adaptedness to the object proposed, less satisfactory to them than their intrinsic merits fairly entitle them to. Among these improvements, none have been so conspicuous as those in the plow, the first and most important of the agricultural tools; and the introduction of better machinery for expressing the juice of the cane, and its more economical and perfect granulation. The coarse, ill shapen, imperfectly made plow of former years, is rapidly giving place to a much neater, more perfectly made, and enduring implement, that will more effectually accomplish the object, and at a greatly reduced expenditure of team labor; while the recent improvements in sugar making, when fully perfected and generally adopted, are destined immeasurably to increase the product and swell the profits of the cultivation of this leading and important staple of the wide spread delta of the Mississippi. R. L. ALLEN.

New Orleans, Feb. 1st, 1847.

(*a*) The extent of territory periodically inundated by the river Parana is estimated at 36,000 square miles.

ANNUAL MEETING OF THE NEW YORK STATE AGRICULTURAL SOCIETY.

The annual meeting of this Society was held in the Assembly Chamber in Albany, on the 20th of January last. Our reporter promptly forwarded us a full account of the same at the time; but by the delay of the Express in not delivering it immediately on his arrival in this city, it came to hand too late to be inserted in our last number.

J. M. Sherwood, of Cayuga, the President, assumed the chair, and Luther Tucker acted as Secretary.

Mr. Enos offered a resolution appointing a committee to request the Legislature to continue the appropriation to the State and County Societies, cut off by the new Constitution.

Benjamin Enos, of Madison; B. P. Johnson, of Oneida; and Luther Tucker, of Albany, were appointed said committee.

Mr. Allen, of Erie, called up the resolution of last year, declaring ex-Presidents *ex officio* members of the Executive committee.

After some debate, the resolution was unanimously adopted.

Mr. Allen remarked that the Constitution of the Society required the election of one Vice President from each Senatorial district. The new State Constitution had increased the Senate districts, and he gave notice of an amendment of the Constitution of the Society, to appoint one Vice President from each Judicial Circuit.

Mr. McIntyre, the Treasurer, read his report, showing the following receipts and expenditures for the past year:—

RECEIPTS.

Balance per last report,	$546.21
Memberships at annual meeting,	137.00
William Buell, life membership,	50.00
Memberships at various times,	10.00
Dividend on Mohawk bonds,	105.00
Interest on bond and mortgage,	70.00
Receipts at Auburn Show,	4,333.17
Joseph Fellows, for Pultney estate,	50.00
State payment,	700.00
Interest on Mohawk bonds,	105.00
Transactions sold,	5.00
Interest on bond and mortgage,	70.00
	$6,181.38

PAYMENTS.

Premiums paid,	$1,599.43
Expenses at Auburn,	710.82
Salaries paid,	700.00
Sundry expenses,	330.71
Invested in bond and mortgage,	2,000.00
Balance in hand,	534.42
	$6,181.38

The following gentlemen were then elected officers for the ensuing year:—

President—George Vail, of Troy; *Vice Presidents*, 1st District—Wm. T. McCoun, New York; 2d, John A. King, Jamaica; 3d, [illegible] N. Bement, Albany; 4th, Samuel Cheever, Stillwater; 5th, O. C. Chamberlain, Richfield Springs; 6th, Eli C. Frost, Catherine; 7th, H. S. Randall, Cortlandville; 8th, W. Buell, Rochester.

Recording Secretary—Luther Tucker, Albany.
Corresponding Secretary—Joel B. Nott, Albany.
Treasurer—J. McD. McIntyre, Albany.

Executive Committee—William A. Beach, Saratoga Springs; Joshua T. Blanchard, Saratoga Springs; Luther Bradish, New York; G. V. Sackett, Seneca Falls; Thos. J. Marvin, Saratoga Springs.

Mr. Bradish on learning his election resigned, and A. Stevens, of New York, was elected in his place. Mr. Tucker also resigned, and B. P. Johnson of Oneida was elected in his place.

Mr. L. F. Allen, chairman of the committee appointed last year on fruits, made a report in part.

Saratoga Springs was recommended as the place for holding the next annual show. A most unwise recommendation, in our humble judgment, as it can only partially accommodate the immense concourse of people who are certain to be assembled on the occasion. Troy, we do not hesitate to say, would have been an infinitely better selection, as it has ample accommodations for fifty thousand strangers; and at least that number would surely have been present, had it been located there.

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2. That $1,500 be appropriated for the expenses of the Society for the year 1847, other than for premiums, and that the authority of the Treasurer to make payments from the treasury, upon the order of the Executive Committee, be limited to that amount.

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Notice that a resolution will be offered at the next annual meeting of the Society, so to amend the constitution, that a nominating committee of one from each Senatorial District of the State, shall be selected from the members of the Society present from each Senatorial District, who shall report the names of proper persons for the officers of the society for the ensuing year; and that no person shall be elected to any office of the society who is not a member thereof.

Evening Session, Jan. 21.

The Secretary read the list of premiums awarded on the reports of the several awarding committees, as follows:

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Mr. and Mrs. Wm. Ottley, Phelps, Ontario County, 2d Premium, $30.00—at the rate of 400 lbs. per cow, in a dairy of cows.

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Indian Corn—Charles W. Eells, Kirkland, Oneida Co., 1st Premium, $100—123 1-2 bushels per acre, at 56 lbs. to the bushel.

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E. C. Bliss, Westfield, Chautauque County, 3d Premium, Vol. Transactions—38 3-8 bushels per acre.

Spring Wheat—Robert Eells, Westmoreland, Oneida County, 2d Premium, $10.00—20, 42, 60 bushels per acre.

Oats—Nathaniel S. Wright, Vernon Centre, Oneida County, 1st Premium, $10,00—75 1-4 bushels per acre for 13 acres.

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Twenty-five copies of the American Shepherd were received from Mr. Morrell and the Messrs. Harper, of New York; and a resolution of thanks was passed, to be communicated to the donors.

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Boys' Department.

A CHAPTER ON GRASSES.—No. 3.

It is said that of all the Cerealia, or cultivated grains, so valuable to man, as furnishing the chief material for bread, the origin of not one of them is known with any degree of certainty, if we except maize, or Indian corn. Recent information seems to prove this magnificent plant to be indigenous to South America, from whence a curious variety has been obtained, in which each grain is enveloped in *glumes* or husks, as in other grasses; presenting, when an immature ear is husked, a close resemblance to an ear of beardless wheat, of a gigantic size. This, the Indians assert, still grows wild in the humid woods of the province of Paraguay. [It is said that the same kind of corn still grows wild from California to Brazil.]

Among the earliest records of the manners and customs of nations, the cultivation of grain is often alluded to, or distinctly mentioned. Abraham set bread before the angels who honored his tent with their heaven-directed visit. Egypt was desolated by famine in consequence of the failure of the crops of grain for seven successive years; from the devastating effects of which Joseph saved the inhabitants of that and the adjacent countries by his superhuman wisdom, which enabled him to foretell events, and his prudence in storing up the surplus corn of the seven preceding years of unexampled plenty, when the earth brought forth by "handfuls." In Europe, all bread stuffs are indiscriminately called *corn*, a name which in this country is given to maize alone. Ruth gleaned in the fields of Boaz—that prince of farmers—during both the wheat and the barley harvests.

The geographical distribution of grain varies in different countries, depending not merely on climate, but also on industry and civilization. Within the northern polar circle agriculture is found only in a few places—the polar limit being in Lapland, where it reaches the 70th degree of latitude. In Siberia wheat scarcely arrives at perfection at 60°, and in Kamtschatka there is none. On the north-west coast of America, between the 52d and 57th degrees, barley and rye come to maturity, while on the eastern or Atlantic side the limit is 52°.

The grains which thrive farthest north in Europe are barley and oats. On the southern border of this limit, rye is associated with them, and then becomes the prevailing grain—as in the south of Sweden and Norway, Denmark, the north of Germany, and a small part of Siberia. In the southern part of this zone wheat is also found, and there barley is chiefly used as food for horses, and in the manufacture of malt liquors, though man still makes it a part of his daily sustenance. Then follows a zone in Europe and western Asia where rye disappears, and wheat almost exclusively furnishes bread; as in the south of France, and of Germany, Hungary, the Crimea and Caucasus, and also the middle of Asia. Here the vine is found, and wine supplying the place of beer, consequently barley is little raised, or only as food for horses and mules. Next follows a district where wheat still abounds, but where maize and rice are frequently grown. To this belong Portugal, Spain, southern France, Italy, Greece, Persia, Arabia, southern India, Egypt, and Barbary. At the southward of these countries, maize and rice supplant wheat, which is rarely seen, and only on high elevations. Within the torrid zone maize predominates in America; rice in Asia; and both, in nearly equal quantities, in Africa. Thus the earth may be divided into five zones, beginning at the equator. First, the zone of rice, then that of maize, next that of wheat, then rye, and north of all, barley and oats.

In making a scale of the intrinsic value of the different kinds of the cereal grains, they may be placed in the following order. First, wheat; second, maize; third, rice; fourth, rye; and fifth, barley and oats.

Among the various kinds which form the principal nutriment of the human family, and to the culture of which even civilization is attributed by ancient and modern writers, the first rank is universally given to wheat (*Triticum sativum*). The range of its culture is perhaps greater than that of any other grain, as it may be grown as far north as the 60th degree of latitude, and in the torrid zone, where, however, it will seldom form even an ear below an elevation of 4,500 feet above the level of the sea, owing to the great exuberance of vegetation, nor will it ripen seed above the height of 10,800 feet elevation, though much depends upon local circumstances. Some naturalists doubt if there is really more than one species of wheat, supposing that all, even the seven-eared Egyptian wheat, may be nothing more than well-marked varieties, which may be reduced by culture to the common kind. Where professors differ, I will not attempt to decide the question.

Wheat yields a greater proportion of flour than any other grain, and is also much more nutritive. Careful housewives say that seven pounds of wheat flour will make nine pounds of good bread.

Indian corn (*Zea mays*), in the torrid zone, will grow at the height of 7,200 feet above the level of the sea, but thrives best and predominates between 6,000 and 3,000 elevation; below that, it is associated with a vegetation peculiarly tropical. Its geographical range is from the equator to the most northern parts of the United States, or wherever the heat of summer is intense, though it be of short duration. One variety, called *Canada corn*, from its usual place of growth, does not often produce a stalk more than four feet high; while the common southern variety is more frequently seen from ten to twelve, or even eighteen feet high. It is now generally acknowledged to be a native of this continent, as before stated, and as additional reasons for the assertion, we may add the well known fact that its culture did not attract notice in Europe, Asia, or Africa, until after the voyages of Columbus had unfolded the treasures of the New World. It was certainly unknown to the ancient Greek and Roman writers, as no memorial of it is to be found among the newly-discovered wonders of ancient Egypt, and it is not mentioned by the early travellers who visited China, India, and other parts of Asia and Africa, though their descriptions of the natural productions of the countries through which they passed, were extremely minute. And lastly, it was found in extensive cultivation on the banks of the Delaware, in New Jersey and Delaware, where the

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Among the earliest records of the manners and customs of nations, the cultivation of grain is often alluded to, or distinctly mentioned. Abraham set bread before the angels who honored his tent with their heaven-directed visit. Egypt was desolated by famine in consequence of the failure of the crops of grain for seven successive years; from the devastating effects of which Joseph saved the inhabitants of that and the adjacent countries by his superhuman wisdom, which enabled him to foretell events, and his prudence in storing up the surplus corn of the seven preceding years of unexampled plenty, when the earth brought forth by "handfuls." In Europe, all bread stuffs are indiscriminately called *corn*, a name which in this country is given to maize alone. Ruth gleaned in the fields of Boaz—that prince of farmers—during both the wheat and the barley harvests.

The geographical distribution of grain varies in different countries, depending not merely on climate, but also on industry and civilization. Within the northern polar circle agriculture is found only in a few places—the polar limit being in Lapland, where it reaches the 70th degree of latitude. In Siberia wheat scarcely arrives at perfection at 60°, and in Kamtschatka there is none. On the north-west coast of America, between the 52d and 57th degrees, barley and rye come to maturity, while on the eastern or Atlantic side the limit is 52°.

The grains which thrive farthest north in Europe are barley and oats. On the southern border of this limit, rye is associated with them, and then becomes the prevailing grain—as in the south of Sweden and Norway, Denmark, the north of Germany, and a small part of Siberia. In the southern part of this zone wheat is also found, and there barley is chiefly used as food for horses, and in the manufacture of malt liquors, though man still makes it a part of his daily sustenance. Then follows a zone in Europe and western Asia where rye disappears, and wheat almost exclusively furnishes bread; as in the south of France, and of Germany, Hungary, the Crimea and Caucasus, and also the middle of Asia. Here the vine is found, and wine supplying the place of beer, consequently barley is little raised, or only as food for horses and mules. Next follows a district where wheat still abounds, but where maize and rice are frequently grown. To this belong Portugal, Spain, southern France, Italy, Greece, Persia, Arabia, southern India, Egypt, and Barbary. At the southward of these countries, maize and rice supplant wheat, which is rarely seen, and only on high elevations. Within the torrid zone maize predominates in America; rice in Asia; and both, in nearly equal quantities, in Africa. Thus the earth may be divided into five zones, beginning at the equator. First, the zone of rice, then that of maize, next that of wheat, then rye, and north of all, barley and oats.

In making a scale of the intrinsic value of the different kinds of the cereal grains, they may be placed in the following order. First, wheat; second, maize; third, rice; fourth, rye; and fifth, barley and oats.

Among the various kinds which form the principal nutriment of the human family, and to the culture of which even civilization is attributed by ancient and modern writers, the first rank is universally given to wheat (*Triticum sativum*). The range of its culture is perhaps greater than that of any other grain, as it may be grown as far north as the 60th degree of latitude, and in the torrid zone, where, however, it will seldom form even an ear below an elevation of 4,500 feet above the level of the sea, owing to the great exuberance of vegetation, nor will it ripen seed above the height of 10,800 feet elevation, though much depends upon local circumstances. Some naturalists doubt if there is really more than one species of wheat, supposing that all, even the seven-eared Egyptian wheat, may be nothing more than well-marked varieties, which may be reduced by culture to the common kind. Where professors differ, I will not attempt to decide the question.

Wheat yields a greater proportion of flour than any other grain, and is also much more nutritive. Careful housewives say that seven pounds of wheat flour will make nine pounds of good bread.

Indian corn (*Zea mays*), in the torrid zone, will grow at the height of 7,200 feet above the level of the sea, but thrives best and predominates between 6,000 and 3,000 elevation; below that, it is associated with a vegetation peculiarly tropical. Its geographical range is from the equator to the most northern parts of the United States, or wherever the heat of summer is intense, though it be of short duration. One variety, called *Canada corn*, from its usual place of growth, does not often produce a stalk more than four feet high; while the common southern variety is more frequently seen from ten to twelve, or even eighteen feet high. It is now generally acknowledged to be a native of this continent, as before stated, and as additional reasons for the assertion, we may add the well known fact that its culture did not attract notice in Europe, Asia, or Africa, until after the voyages of Columbus had unfolded the treasures of the New World. It was certainly unknown to the ancient Greek and Roman writers, as no memorial of it is to be found among the newly-discovered wonders of ancient Egypt, and it is not mentioned by the early travellers who visited China, India, and other parts of Asia and Africa, though their descriptions of the natural productions of the countries through which they passed, were extremely minute. And lastly, it was found in extensive cultivation on the banks of the Delaware, in New Jersey and Delaware, where the

Indians had large fields of it and pumpkins, as early as the year 1627, when the Swedes first landed on this coast.

Farmers' boys need hardly be told that every part of this beautiful plant is valuable as food for man or animals. When the corn is "in tassel," the large pithy culms abound in a rich saccharine juice, from which a good syrop can he made; but in this highly favored land of plenty, where the sugar-cane is almost naturalized at the south, and the sugar maple yields a perennial supply at the North, we need not resort to so expensive a substitute for so cheap a luxury. The same sweet juice pervades the whole herbage, which is therefore a favorite and nutritious food for cattle. Everybody knows how highly the immature kernels on the ear are prized when served up as "hot corn," both as a delicacy and a staple dish for the table. And is not every farmer's kitchen furnished with a "mush-pot," for boiling mush, as we southrons call the "*hasty pudding*" of our "down east" brethren? The methods for cooking corn meal are quite "too numerous to mention," and are of all grades of goodness, from the "hoe-cake," made of meal and water only, and baked by the negro on his hoe, to the Indian pudding, that is rich enough to tickle the palate of an alderman. E. S.

Eutaxah.

Ladies' Department.

CULTURE OF FLOWERS.

Flowers should be cultivated in every garden, especially if near the house; in which case, if not in every other, the garden certainly ought not to be limited to the production of vegetables merely, but should contain the ornamental as well as the useful. Too much time and space must not, however, be devoted to flowers; and we will only mention a few of the more hardy sorts, which may be easily managed, and which will be pleasing at all seasons of the year.

Climbing over the porch, or around the door, you may have a few of the hardy tall-growing roses, for ornament. Common monthly or China roses may cover the corners of your house, or be trained under and along the sides of the windows, mixed with laurestinus, arbutus, and pyracantha; nor let the honeysuckle be wanting in some corner, twisted round a tree, or hanging over a corner of the wall.

Have plants of the hundred-leaved, moss, cabbage, variegated, and common blush roses, in the corners of your garden nearest your house; and in the borders, plant snowdrops, crocuses, red and yellow tulips, white and yellow bachelors' buttons, primroses, anemones, narcissus, cowslips, polyanthus, white and yellow lilies, wallflowers of different colors, dahlias, hollyhocks, jonquils, violets, the sweet-scented clover, mignionette, and any other annuals you like or can procure.

If you edge your flower-borders with the garden daisy, and the hardy sorts of auriculas, there will be few days in summer or autumn in which some pretty little flower will not peep forth, and afford you pleasure in looking at it. A holly (an American one North, or a European South), box, laurel, or rhododendron, will do well under shade, and their perpetual green will refresh your eyes in winter; and be assured that such objects as a garden presents, if it be neatly kept, are always valuable; for they do the heart good, and impart a kindly tone of feeling and refinement, and serve to keep out evil thoughts.

Encourage your children in a taste for flowers. Teach them to plant the seeds and roots, and to weed and keep them clean, and train and cultivate them; and the taste will remain with them when they grow old. It is on such things as these, in the recollection of bygone days, that local attachment is founded, making us delight to revisit the scenes of our childhood, and bringing back the wanderer from distant climes, to seek a last resting-place in the home of his fathers.

FEMALE CLOTHING.

There is such a variety of articles for female dress, that it may often be doubtful which is best adapted for any particular situation; but for outer garments, woollen is in general to be preferred to cotton, which, although gay looking and cheaper at first, sooner loses its color, and does not wear so long. Red and blue cloaks, and dark checkered woollen shawls, are comfortable and well looking; and a bonnet is indispensable for every woman who wishes to preserve her good looks, and avoid premature wrinkles. Everything beyond what is necessary for cleanliness and comfort, and for neatness and decency of appearance, should be avoided in dress, whether it be of male or female.

For the dress of children, warmth should chiefly be studied. An economical wife, who is a good needle-woman, will often manage to clothe her children neatly, from parts of her own and her husband's old garments; and her little ones may thus be decently clothed at a trifling expense. This, however, will much depend upon her skill and ingenuity, and it cannot be too strongly recommended to every female, whether wife or daughter, to pay attention to neatness and cleanliness in the children's persons and clothing, as well as in her own.

The old proverb says, that "a stitch in time saves nine;" and wherever attention is manifested in the careful repairs of the family clothing, we may be assured that comforts of other kinds will not be wanting within doors. An old, but clean and neatly mended child's dress, or husband's working garment, bespeaks the thrifty housewife, and implies habits the very opposite of those indicated by dirty or ragged clothes, which are a sure mark of the wife's indolence and neglect. Z.

Training of Children.—The instruction of your children cannot commence too early. Every mother is capable of teaching her children obedience, humility, cleanliness, and propriety of behavior; and it is a delightful circumstance that the first instruction should thus be communicated by so tender a teacher. It is by combining affectionate gentleness in granting what is right, with judicious firmness in refusing what is improper, that the happiness of children is promoted, and that good and orderly habits are established. If children are early trained to be docile and obedient, the future task of guiding them aright will be comparatively easy.—*Nicholls.*

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria we are in receipt of our foreign journals to February 4th.

MARKETS.—*Ashes* an advance of 1s. *Cotton* a decline of full ⅛ to ¼d. per lb. in consequence of the high price of provisions and limited sales for cotton yarns and goods. Stock on hand at Liverpool on the 1st of February, 455,440 bales, against 877,090 same time last year. *Flour* has fallen 4s. per bbl. *Indian Corn* 4s. per quarter. There were large stocks on hand of Flour and Grain of all kinds. *Beef* and *Pork* were bringing extreme prices. *Lard* an advance of 6s. per cwt. *Cheese* an advance of 1s. per cwt. *Guano* an improved demand and sales very extensive. *Rice* in good request. *Sugar* was in great request in consequence of government allowing it to be used in distilleries. *Spirits Turpentine* a trifling decline. *Tar* firm. *Tallow* the same. *Tobacco* a slight depression in the middling class of strips. *Wool* from the United States was in fair demand, and we are glad to notice that it is getting into more general use and gaining favor with British manufacturers.

Money.—The Bank of England has raised the rate of discount to 4 per cent., which has had a depressing effect in the market. This is one reason of the slight decline in flour and grain; men with small means being forced to sell. The market was gradually recovering.

Exportation of Specie to America.—The Cambria takes out over $2,000,000, chiefly in silver. Upwards of $3,000,000 were exported last month.

Famine was prevailing to a great extent in Ireland, Scotland, France, and many parts of Germany and Hungary. Thousands of poor people were dying from this cause, and the diseases incident to it.

Suspension of the British Corn and Navigation Laws.—An act recently passed by the British Parliament effects an abandonment of the duty of 4s. per quarter levied on corn, until the 1st of September of the present year. Another effects the partial abandonment of the navigation laws, which prevent the introduction into Great Britain of any produce but that of the country to which the ship that carries it belongs, by suspending their operation so far as regards corn, until the first of September next.

The estimated value of the loss of the potatoe crop in Ireland is $100,000,000.

Death of William Youatt.—We are pained to learn the death of this eminent man. He committed suicide in consequence of unfortunate speculations in railroad stocks. He was in his 70th year. He stood preëminently high as a veterinary surgeon, and was the author of that admirable series of works on the Horse, British Cattle, the Sheep, and the Dog, published by the Society for the Diffusion of Useful Knowledge. As an author and a surgeon his place will not be easily supplied.

AMERICAN PROVISIONS.—The following is a table of the importations of American provisions into Liverpool since the year 1843, when the trade was opened, to the end of the year 1846, just closed:—

IMPORTS FROM 1ST JAN. TO 31ST DEC.

	BEEF.	PORK.	CHEESE.		LARD.	
	Tc's.	Brls.	Brls.	Casks.	Bxs.	Brls.	Kegs.
1843	3498	5005	2956	4500	19093	23550	24706
1844	9300	3354	7939	5287	18245	20027	28795
1845	15573	3337	7930	5017	44445	9346	56324
1846	25913	9218	14871	4049	58742	21635	65531

The supplies of American provisions in Liverpool, on the 31st December, were smaller than usual. They amounted to 2750 tierces of beef; 5300 barrels of pork; 440 tons of cheese, and 420 tons of lard. The quality of all these kinds of provisions has greatly improved since they began to be imported, and prices have risen in proportion. American beef has risen from 65s. to 80s. a tierce, and from 75s. to 85s. a barrel since the importations of 1842-3; pork from 28s. and 36s. a barrel to 62s. and 68s.; cheese from 48s. and 51s. to 50s. and 53s.; and lard from 41s. and 42s. to 45s. and 46s.

Comparative Consumption of Food in England and France.—The actual consumption of butcher-meat in England for every person is as follows:—

	lbs.
A rich family in London, consisting of husband, wife, six children, and ten servants,	370.5
A house of business in which there are 114 persons of both sexes,	306.9
A hospital, containing at least 290 children of both sexes, and where food is not given at discretion,	160
Mean,	279.13
In France, it has been ascertained that the mean annual consumption of a family in Paris, which, in 1789 was estimated at 148lbs., was no more from 1827 to 1837 than	107¼
Making the mean annual consumption of a London family exceed that of one in Paris by	171.88

Pruning Forest and Ornamental Trees.—Pruning is an operation which by some is carried too far, and by others entirely neglected. When substituted in place of thinning, it is carried to an injurious and unprofitable extent, and when neglected altogether, many trees will only assume the habit of shrubs. It is not a little amusing to observe the expedients resorted to to remedy the evil of close planting, and to put off till a more convenient season, the very necessary operation of thinning which, if done in time, is the only effectual remedy. One of these shifts, and a most absurd one it is, is cutting off the whole of the lower branches, leaving only a few of the upper ones to form a small top, as if nature had committed a great error in furnishing the plants with a superfluity of resources by which to draw to them that nourishment necessary for their existence. This is a very gross error when practised even on hardwood trees, as it must of necessity retard their growth, and cause them to make unnecessary efforts to restore what they have lost by pushing out shoots from their stems near the parts where the branches were attached to. This of itself is sufficient to teach any reflecting person that the practice is wrong. But when adopted on resinous plants, such as the fir tribe, it is most destructive, as they are deprived by nature of the means of restoration, and hence the wounds remain unhealed for years, and in many cases as long as the plants survive.

Pruning can only be practised with propriety and advantage on hardwood trees, and should be done at an early stage. Little or no pruning should ever be necessary in a plantation after 15 years' growth. In performing this operation, attention should be paid to the natural habit or form of the tree, and thus to assist, but not to thwart nature. It is absurd to attempt to make an oak, or any other round-headed tree, assume the habit of an erect growing plant, such as the Lombardy poplar. It is therefore difficult to lay down a general rule, and much must depend on the judgment of the operator. It may be remarked, however, that all trees intended to grow to timber should be set off with one stem, and every rival to the top or leading shoot should be cut off, and any side shoot or branch acquiring greater strength than the stem itself, and drawing away from it an undue proportion of sap, should also be taken away. A few of the lower branches may be cut off as the trees advance, but this must be done with caution. If this is properly attended to, and judiciously done when the plants are young, and it can almost all be done with the common pruning-knife, and at a mere trifling expense, the trees in general and under ordinary circumstances will have attained sufficient length of stem in 15 years.—*Gardeners' Chronicle.*

Editor's Table.

Sir Henry.—We have received a circular from Messrs. Lucius Sanderson & Co., of West Milton, Vermont, informing us that this fine, well-bred horse, will stand at Burlington the ensuing season. Sir Henry has taken several premiums at the annual shows of the N. Y. State Ag. Society. Celebrated as the Vermont horses already are, we think if duly patronized, this superb horse will leave a stock behind which will add still more to their reputation as roadsters.

Danger from Dogs Licking the Hands.—In the early stages of rabies (madness) the attachment of the dog towards his master or associates seems to be rapidly increased. He is continually desirous of licking the hands or face, or any part he can get at. A healthy dog should never be permitted to indulge this disgusting habit. In one affected with rabies, the virus, or poison, can scarcely fail to be deposited in any abraded or wounded surface; and in that case, there is just as much danger as if the animal had inflicted a wound with his teeth.

Pension to Mrs. Loudon.—The British government has conferred a life-pension of £100 ($500) upon Mrs. Loudon, as a small acknowledgment of the value of her late husband's writings upon agriculture and horticulture. Our government can pension men and their widows by the thousand for volunteering to kill poor Mexicans, who never did them any harm; but if it were called upon to pension a single individual who had been of great service to his countrymen in the cause of agriculture, the idea would be scouted by a large majority in both houses of Congress, as unconstitutional.

The American Poulterer's Companion; A Practical Treatise on the Breeding, Rearing, Fattening, and General Management of the Various Species of Domestic Poultry, with Illustrations and Portraits of Fowls, taken from Life. By C. N. Bement. New York: Harpers, pp. 380, 12 mo. Price $1.00. When this admirable work first appeared, about two years since, we prophesied that it would be very popular and have an extensive sale. A fifth edition, now before us, fulfils our prediction, and shows that a good American work on this important branch of domestic economy was much wanted. To those who take an interest in this class of bipeds—and who is there that does not—at least so far as eating their flesh, eggs, custards, &c., are concerned?—we heartily repeat our commendation of Mr. Bement as their guide, and emphatically assure them, that he has written the best book on poultry ever published in the United States.

We close this notice with the following *jeu de mots* from our jocose contemporary of the Philadelphia North American, who, though no *rooster*, we opine has more than once ascended the *loft*. "The author of this book is evidently no *chicken*. He takes up the subject *ab ovo*, and from his study and experience, is *cock*-sure of the correctness of all his facts and principles. The performance is a decided *feather* in his cap, and we hope that he may find the public ready to *shell* out in testimony of his success. It would be, to say the least, *foul* play if so much labor should not have its reward, and, so far as we are concerned, we feel it our duty to *spur* the attention of our country friends to the author's merits. Without meaning to tread on political ground, we are not sure but he has abundant reason to *crow*."

The Iowa Farmer's Advocate.—This is a neat quarto of 16 pages, published monthly at Burlington, by James Tizzard & Co., at $1.00 a year. One of the most certain evidences of an increasing interest in agriculture, is the multiplication of journals devoted to its improvement. We heartily welcome the appearance of all such, more especially when they spring up in the newly settled States. H. Gates, editor.

The Philosophy of Magic, Prodigies, and Apparent Miracles. From the French of Eusebe Salverte. With Notes Illustrative, Explanatory, and Critical. By Anthony Todd Thomson, M.D. 2 vols. 12mo. pp. 320 each. New York: Harper & Brothers. Price $1.00. The object of the author of this work was to explain the power and displays of the priests of olden times over the elements of nature, whose control he conceived could not be maintained without operating on the superstitious feelings of the multitude; but, like most promulgators of a theory, he attempted to extend the subject too far by explaining not only the apparent miracles of Polytheism, but even those which, in a great degree, form the foundation of a Christian faith. For these reasons, the English editor felt it his duty to expunge from the pages of these columns every passage referring to the Bible; and at the same time, to change somewhat the title of the work, by substituting the words "apparent miracles" for the word "miracles."

This work abounds in information of the most entertaining character, and cannot fail to be read with interest as well as profit, by the artisan, the chemist, the student of nature, the historian, and the divine.

The Spaniards and their Country. By Richard Ford, Author of the Hand-Book in Spain, Part I. New York: Wiley & Putnam, pp. 166, 12mo. Price 37 cents. This little work, which forms the 84th No. of the Library of Choice Reading, is written in a pleasant, graphic style, and will serve as an excellent guide book to those who may have occasion to travel through the wild and romantic scenery of this rich, though unfortunate country, and will impart an accurate knowledge to the general reader of the language, costume, habits, and local character of its people.

English Synonymes, Classified and Explained; with Practical Exercises, designed for Schools and Private Tuition. By G. F. Graham; with an Introduction and Illustrative Authorities. By Prof. Henry Reed, of the University of Pennsylvania. New York: D. Appleton & Co., pp. 344, 12mo. Price $1.00. The English language deserves better care and more sedulous culture than is generally bestowed upon it; and when properly understood will enable one to give utterance to truth in simple, clear, and precise terms, and to express his thought and feelings in words that mean nothing more and nothing less. We know of no work better calculated to do this than the one before us, which will not only teach us how to escape the evils of vagueness, obscurity, and perplexity, but the manifold mischiefs of words used thoughtlessly and at random, or words used in ignorance and confusion.

The Horse's Foot, and How to Keep it Sound. With Illustrations. By William Miles. From the 3d London Edition. New York: D. Appleton & Co., 200 Broadway, pp. 70. Price 25 cents. Price of the English edition $2.50. Few subjects of animal economy are less understood than that of the conformation, diseases, treatment, and shoeing of the horse's foot. It is with no little pleasure therefore that we announce the republication of the work before us, written by one who is intimately and practically conversant with the matters in question. In the treatment of his subject the author has shown his good sense by discarding all the technical terms which it was possible to avoid. With a view of showing its high value we shall hereafter give some extracts from Mr. Miles's work.

The Farmer and Mechanic; Devoted to Agriculture, Mechanics, Manufactures, Science, and the Arts: New York: W. H. Starr, 135 Nassau st. We acknowledge the receipt of the back volumes of this periodical, and the numbers of the present year, as far as published. The work is issued weekly in an improved form, at $2.00 a year. From the mass of mechanical and other information it contains, it is highly worthy of success.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, FEBRUARY 24, 1847.

ASHES, Pots,	per 100 lbs.	$4 87	to	$5 00
Pearls,	do.	5 50	"	5 62
BALE ROPE,	lb.	5	"	6
BARK, Quercitron,	ton,	35 00	"	40 00
BEANS, White,	bush.	1 25	"	1 75
BEESWAX, Am. Yellow,	lb.	26	"	30
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	40	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	16	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	9	"	11
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	6 00	"	7 00
CORDAGE, American,	lb.	11	"	12
COTTON,	do.	9	"	13
COTTON BAGGING, Amer. hemp,	yard,	11	"	14
FEATHERS,	lb.	25	"	34
FLAX, American,	do.	7	"	8
FLOUR, Northern and Western,	bbl.	6 38	"	7 00
Fancy,	do.	7 00	"	7 25
Southern,	do.	6 38	"	6 75
Richmond City Mills,	do.	7 25	"	7 50
Buckwheat,	do.	4 00	"	4 25
Rye,	do.	5 00	"	5 25
GRAIN—Wheat, Western,	bush.	1 60	"	1 75
Southern	do.	1 55	"	1 60
Rye,	do.	95	"	1 00
Corn, Northern,	do.	95	"	1 00
Southern,	do.	88	"	95
Barley,	do.	82	"	83
Oats, Northern,	do.	46	"	50
Southern,	do.	42	"	44
GUANO,	do.	2 50	"	3 00
HAY, in bales,	100 lbs	56	"	62
HEMP, Russia, clean,	ton.	240 00	"	245 00
American, water-rotted,	do.	105 00	"	185 00
American, dew-rotted,	do.	75 00	"	125 00
HIDES, Dry Southern,	do.	9	"	10
HOPS,	lb.	9	"	12
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 31	"	4 38
Sheet and bar,	lb.	4½	"	5½
MEAL, Corn,	bbl.	5 00	"	5 12
Corn,	hhd.	20 00	"	22 00
MOLASSES, New Orleans,	gal.	35	"	37
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 81	"	2 00
Pitch,	do	88	"	1 06
Rosin,	do.	50	"	60
Turpentine,	do.	2 50	"	3 00
Spirits Turpentine, Southern,	gal.	38	"	43
OIL, Linseed, American,	do.	77	"	80
Castor,	do.	75	"	80
Lard,	do.	75	"	80
OIL CAKE,	100 lbs.	1 50	"	1 75
PEAS, Field,	bush.	1 25	"	1 75
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	10 00	"	12 00
Prime,	do.	8 50	"	9 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	12 50	"	15 00
Prime,	do.	12 00	"	13 25
Lard,	lb.	10	"	11
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Hams, Smoked,	do.	8	"	12
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	8
Pickled,	do.	5	"	7
RICE,	100 lbs.	3 37	"	4 75
SALT,	sack,	1 25	"	1 35
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	8	"	10
Timothy,	7 bush.	18 00	"	25 00
Flax, clean.	do.	10 25	"	11 25
rough,	do.	10 00	"	11 00
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	6½	"	9
SUMAC, American,	ton,	35 00	"	37 50
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2	"	7
WHISKEY, American,	gal.	28	"	30
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	25	"	30
Half blood	do.	20	"	25
Common do		18	"	20

REMARKS.—The news from Europe in the early part of the month gave an important rise in the grain and provision market, and though this was counteracted somewhat by the more recent advices by the Cambria, we still quote many articles in advance of last month's prices. Among these are Quercitron Bark, Beans, Peas, Rye Flour, Wheat, Rye, Barley, Oats, Russia Hemp, Hides, Corn Meal, Oils, Provisions, Lard, Clover and Timothy Seed. Cotton and Tar have fallen.

The accounts from Europe continue deplorable. The scarcity of grain and provisions there is very great. We have no reason to suppose there will be any considerable reduction in our market till canal and lake navigation opens.

Money is tolerably abundant. Upwards of ten millions of specie have arrived in the United States within the three past months.

The Weather.—We have had deep falls of snow the latter part of February, which we consider highly favorable. Late snows warm and enrich the earth, and are usually the precursors of abundant harvests and a good fruit season.

TO CORRESPONDENTS.—Communications have been received from Wm. Bacon, George W. Phipps, E. S., T. B. Miner, and R. L. Allen.

ACKNOWLEDGMENTS.—Proceedings of the National Conventions of Farmers, Gardeners, and Silk Culturists, held in connexion with the 19th Annual Fair of the American Institute; List of Premiums awarded by the Managers of the 19th Annual Fair of the American Institute; First Annual Report of the Ohio State Board of Agriculture; The Enquirer, containing Ten Lectures on the Use of Intoxicating Liquors, by Rev. Dr. Nott, President of Union College.

SUPERIOR FRUIT TREES, &C.

WM. R. PRINCE & CO., Proprietors of the extensive Nurseries at Flushing, have simply to announce that they now have the finest Collection of Fruit and Ornamental Trees and Plants ever offered; and by continual investigation, and rejecting all inferior sorts, they offer only the most estimable varieties. The Fruit Trees are of large size, and of Pears (although scarce elsewhere) they have 3000, 8 to 9 feet high, with heads of bearing age, and 10,000 of 5 to 7 feet. Peaches of 20 very fine varieties, at $12 per 100, or $100 per thousand. The stock of Apples, Plums, Cherries, Apricots, Nectarines, Quinces, Grapes, Raspberries, Gooseberries, Currants, and Strawberries, is very extensive. Of Ornamental Trees and Shrubbery, and especially of Evergreens, an immense supply. 4000 Paulownia Imperialis of Japan. 80,000 Roses, of every variety. Purchasers, or their agents, are invited to view these Trees, and judge of their superiority, as there will be a great saving of time and money in buying those of superior quality.

Linnæan Garden and Nursery, Flushing, March 1, 1847.

PRAIRIE FARM FOR SALE.

640 ACRES PRAIRIE LAND, in Sangamon County, Illinois, 8½ miles W.S.W. of Springfield, the capital of the State of Illinois. The land is pleasantly situated, in a respectable and healthy neighborhood, well watered with never failing streams, and of very rich soil, convenient to timber both on the north and south side; the railroad from Springfield to the Illinois river (which is 35 miles distant) goes through the land. Farms in the vicinity are well supplied with all the varieties of cultivated fruit, some having been in cultivation more than 20 years. Mills, churches, and schoolhouses are convenient. Stone coal can be bought at the pits within five miles from 2 to 3 cents per bushel. Lumber is worth from 10 to 12 dollars per M. Well water is excellent. Quarries of lime-stone and sand-stone are in the vicinity. Hands for farm labor as well as mechanics can be had at moderate wages.

The land was personally surveyed and selected by the son of the owner, after a prolonged search through what is called the garden of Illinois, and would have been improved and occupied by the owner and his family, had not unexpected occurrences prevented.

Price, $3.50 per acre, one-fourth cash, the balance on time as the purchaser may wish. For further particulars apply to

A. B. ALLEN & CO., 187 Water st., N. Y.

FINE PURE BRED SHEEP FOR SALE.

THE Subscriber being about to give up the farming business offers for sale his stock of Merino Sheep—consisting of 54 pure-bred Ewes—all with lamb by the celebrated Rambouillet buck Grandee, owned by the Rev. L. G. Bingham, of Williston, Vt. Also 50 lambs from the above mentioned ewes, got by the Rambouillet buck Chancellor, also Mt. Defiance, owned by Merrill Bingham, of Cornwall, Vt. It is believed by the owner that they are fully equal to any flock of sheep in the country for raising stock. The ewes, aside from raising a lamb each, sheared last June upon an average 4 pounds and 4 ounces of *well washed* wool, perfectly clean from *gum*. The wool was sent to Sam'l Lawrence, of Lowell, and pronounced by him to be the *right* kind of Wool for our Farmers to raise—being the most profitable. Satisfactory certificates of the blood can be given. Apply to the subscriber at Williston, Vt, or A. B. ALLEN, 187 Water st., N. Y. THOS. H. CANFIELD.

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PERUVIAN GUANO, received direct from the Chincha Islands and shipped by special authority of the government of Peru. All that is sent to this country is thus shipped by the Guano Company, and is consigned to the subscriber. It will be received by him at New York, or by SAMUEL K. GEORGE, at Baltimore. Any other Guano offered as *Peruvian*, is spurious. The price, in quantities not less than *twenty-five tons*, is $50 per ton.

3tm EDWIN BARTLETT, 42 South-street.

WANTS A SITUATION.

A PRACTICAL GARDENER.—Has a general knowledge of Horticulture and the Formation of Picturesque Scenery.

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FOR SALE AT A SACRIFICE.

A RICH VALLEY FARM, containing 123 acres, situated on the north side of Long Island, 3½ miles from Cold Spring Harbor, and 5 miles from railroad depôt. Produces in abundance all kinds of Grain and Grass, the buildings and fences are in first rate order, the prospect very fine, and one of the most healthy locations on the Island. The stock, farming utensils, and winter grain will be sold with the Farm if the purchaser wishes. One half of the purchase money can remain on bond and mortgage at 6 per cent. for a number of years, or would be exchanged for good city property. Inquire of

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PROUTY AND MEARS' PLOWS.

Quite a variety of the above plows can be had at the New York Agricultural Warehouse, together with the most complete assortment of all kinds to be found in the United States.

FARMERS', GARDENERS', AND PLANTERS' STORE.—*A. G. MUNN*, Louisville, Ky.

500 bush.	clean Kentucky Blue Grass	All warranted crops of 1846.
500 "	" Orchard Grass,	
300 "	" " Red Top,	
200 "	" Red Clover,	
100 "	" Timothy,	
200 "	" Hemp-seed,	
200 "	" Barley,	
200 "	" Rye,	
100 "	" Heavy Seed Oats, 40lbs. per bushel,	

☞ All warranted crops of 1846.

Also—Lucerne, White, Dutch Clover, Millet, Potatoes, Artichokes, Beans, Yams, Apple Seeds, Peach Pits, &c. &c. together with a large stock of *FRESH GARDEN SEEDS*, by the pound, ounce, or in papers, put up to suit any market. A liberal discount made to dealers.

Also a large stock of Agricultural and Horticultural Implements, such as Plows, Harrows, Corn-shellers, Cultivators, Straw-cutters, Fanning-mills, Hoes, Rakes, Spades, Shovels, Axes, Trace-chains, Churns, Scythes, Cradles, Knives, &c &c. Orders from abroad will meet with prompt attention.

N. B. Agent for various Nurseries East and West.

A DESIRABLE FARM FOR SALE,

SITUATED in Paducah, Kentucky, on the Ohio, at the mouth of Tennessee River, containing 900 acres, 150 of which have been cultivated with grass, grain, tobacco, sweet potatoes, orchards, &c. This estate is well wooded and watered, and is in every respect adapted for a grazing or stock farm. The improvements otherwise consist of a neat commodious dwelling and kitchen, a smoke house, an out-house for servants, stables for cattle, a tobacco barn with a press, and a large cistern lined with cement. If desirable, the purchaser can have at a reasonable rate, all the stock, household furniture, and implements on the place, most of which are nearly new and in good condition. Price of the farm $3,000. Terms easy. For further particulars apply personally or by letter, post-paid, to A. B. ALLEN, 187 Water st. N. York, or the subscriber on the premises. EDWARD TROYE.

Paducah, Ky., Jan. 4, 1847. 2t f

STOCK FOR SALE.

MATCH and single horses, some of which can trot their mile under three minutes, others rack and gallop easily, making admirable saddle-horses for ladies and gentlemen; Durham, Devon, Hereford, and Ayrshire Cattle; Merino, Saxon, Southdown, and Leicester Sheep; the large white English breed of Swine, Berkshires; Poultry, &c., &c. Apply to

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SINGLE-HORSE Plows, from $2.00 to $3.00 each.
Double-horse do. " $3.00 to $6.00 "

The woods of these Plows are made of the best of *White Oak*. The handles are *steamed* and then *bent crooked*, instead of being *sawed* out. This makes them much stronger and more durable. The castings are made from good *new pig iron*, without any admixture of *old scrap*. The wrought iron work is of excellent quality, with *extras* attached to the plows. A liberal discount to dealers. A. B. ALLEN & CO., 187 Water st., New York.

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